

THE

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Modern Husbandman,

COMPLETE

In EIGHT VOLUMES.

CONTAINING

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| <p>I. The Practice of FARMING, as it is now carried on by the most experienced Farmers in the several Counties of <i>England</i>, for every MONTH in the Year.</p> <p>II. The TIMBER and FRUIT-TREE improved; or, the best practical Methods of improving different LANDS with proper TIMBER.</p> | <p>III. AGRICULTURE improved, or, the Practice of HUSBANDRY displayed, shewn by Facts performed on all sorts of Land, according to the Old PLAIN, and the New DRILL Way of Ploughing.</p> <p>IV. CHILTERN and VALE Farming explained, according to the latest IMPROVEMENTS.</p> |
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Necessary for all LANDLORDS and TENANTS
of either PLOUGHED, GRASS, or WOOD GROUNDS.

By WILLIAM ELLIS,
Farmer, at *Little Gaddesden*, in *Hertfordshire*.

V O L. III.

L O N D O N:

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SECRET

The President of the United States, as it is now called on by the most respected name in the world, and the only name in the world, is the only name in the world.

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P R E F A C E.

For the Month of *May*.



*I*N this Monthly Treatise of the MODERN HUSBANDMAN, I begin with those most useful Articles, Plowing and Sowing; and intend to pursue the same Method throughout the whole Work; and these, as they are now performed by the most judicious Farmers for a Livelihood, in the several Operations of Broad, Bout, Ridge, and Drill-work, by the Two-wheel, One-wheel, Foot, and Three-wheel, and Pulley Drill-ploughs, Horse-breaks and Sheims, &c. Of all which I shall be the more
A parti-

particular, because no Author has ever yet published the common practical Ways of these Instruments, as they have been, and are at this Time, in Use : Which I could not do, had I not travelled several Years for informing my Judgment, by making Observations on the numerous Objects that presented themselves to my View, as well as conversing and corresponding with Gentlemen, Farmers, and others ; by which, with the twenty-four Years Experience in the Management of my own Farm, and the Knowledge of my Neighbours and Country's Practice, I am enabled to compose Monthly Books of Facts, without being beholden to a Mass of uncertain Theory. Agriculture began with the World, and was the Employment of its first Inhabitant, who was to get his Bread by the Sweat of his Brows : Therefore, as to its Antiquity, it, undoubtedly, may be dated from Adam, who was placed in the terrestrial Paradise for cultivating it, and enjoying its Fruits by the Help of the Spade, Plough, or other Instrument : An Invention not since altogether found out by fortuitous Accidents, as some have vainly conjectured, almost into a Notion of Certainty. But, waving insignificant Niceties of Dispute, it must be owned, that the Improvement of Agriculture, within these very few Years last past, has made our Britain and Ireland exceed all Countries in this Science ; and happy for us it is so, since, as the World grows older and more populated, the good Providence of God has wisely contrived it, that, with Necessity, Wisdom should be given to Men to find out Ways and Means to supply

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supply it. And, as nothing can more contribute to this great End, than to refresh and fertilise our Mother Earth in the quickest and cheapest Manner, it is most true, that the Plough can answer this Purpose beyond all other Inventions. And, as the Creator has been pleased to make this World abound with different Earths and Situations, it is incumbent on the Farmer to furnish himself with that Sort, which best suits the Nature of his Land. Hence it is, that the Wheel-plough, or any of the Drill-kind, is as useless in some Vales, as the Foot-plough is in some dry stony Grounds of the Chiltern: For, though the Soil and Seed be good, the Manure plenty, and all other necessary Contingencies are compleatly furnished; yet, if the Plowing-Part is not performed in due Order, our Return at Harvest will, in Course, be the less. Wherefore, as God provides for many good Things of this World, by the Labours of the Ploughman, it is our necessary Business to find out all possible Improvements relating thereunto; as the late dreadful Scarcity of Corn, &c. in 1740, is a most woful, but plain Proof of. The Labours of a Country Life will rise in our Esteem, if, besides their Agreeableness to our Nature and Frame, we consider them as the Source of all the Wealth of the Nation: Trade and Commerce, which are esteemed the two greatest Fountains of national Wealth, cannot have Place, but in the Foundation of this original and natural Employment. Agriculture not only furnishes Wealth to a Nation, but Hands also able and willing to defend it, and is, perhaps, the

best Nursery of good Soldiery in the World ; and the Country Life, which thus qualifies Men for necessary Defence, naturally introduces a Disposition averse to civil Tumult and offensive War : The Occasion over, their Swords easily convert into Plough-shares, and their Spears into Pruning-hooks. Agriculture was, perhaps, the Parent of all those Sciences, Arts, and Employments, which have since carried their Heads so far above her : But it rises still higher, and reads continual Lectures, not only in Speculative, but Practical Philosophy ; it conducts to Morality, and every social Virtue ; and enforces a due Regard to, and Dependance on the Supreme Being ; in which consists the Essence of Religion. As to the chief Particulars in this, and in the Eleven Monthly Books that are to follow, they are too many to be mentioned here ; therefore I shall conclude this Preface with giving you only a Hint of a very few of them, as follows, viz.--The Article of Suckling House-lambs, I am sensible, has been wrote on by Mr. BRADLEY ; by my Account, it may be carried on by those Farmers, who never saw the Business performed in their Life ; and that in the most profitable Manner, by causing Ewes to take Ram at any Time, and lamb twice a Year ; whereby several Cities and great Towns will undoubtedly, and in a little Time, be supplied with that dainty Food House-lamb all the Year, as is done at London. The like Profit may be had by the Flesh of suckling Calves, which, by several artificial Ways, may be made very white, and soon fat. The new-invented,

vented, light, Three-wheel and Pulley-ploughs, which plow, sow, and harrow, all at a Time, with only one, or two Horses at most; and the Horse-break and Dutch Hough, which, in a few Weeks after, is to follow it, are such serviceable Instruments, that, I am sure, Thousands would have, if they knew their Benefits in all dry Loams, or in any other Soil, where a Drill can be rightly made, and the Owner's Conveniency will allow of it, for sowing Tetches, Pease, Horse-beans, Kidney-beans, Barley, Wheat, &c. therein, as it is now done by Farmers for a Livelihood. In February, 1738, I sent the Three-wheel Drill-plough and Horse-break into Yorkshire, to a Gentleman who has since expressed himself with Abundance of Satisfaction. Likewise the Improvement of Hop-plantations by the new-invented Prong-plough, Hough-plough or Sheim, Prong-spade, Prong-hough, and Beck-hough, as they are frequently used by some of the most ingenious Husbandmen, to their great Advantage. The invaluable Receipt, to prevent Sheep's Rotting in the worst Ground, I learned of a Farmer, who saved a Flock of three hundred by it, when all his Neighbours Sheep died in the same Soil and Situation; being a Remedy so easy to come by, that it may be had in most Villages for about a Penny Charge, which is enough to secure a Sheep's Health six Months. Several Ways to make a Cow take Bull at any Time, and stand to it, according to the Cheshire, Suffolk, and other Practice. To make Butter in the sweetest Manner, after a Method approved of by the
Royal

Royal Society : *Also to prevent its being tainted by Leaves, or other rank Food ; and likewise a Way to make it presently, without Churning ; with many other valuable Secrets relating to the Dairy. To make many Sorts of Cheese. Infal- libly to prevent the Fly's Destroying young seedling Turneps for Two-pence an Acre Charge in all Weathers, and to cause the Seed to sprout in a very little Time after it is sown, in the driest Season. To hinder the Slug's doing Mischief to young Turneps, Savoys, Flax, &c. in dry, or wet Weather, without the Help of Soot, Lime, Tobacco-sand, or other powdered Application. To keep off the Damage of Field-fowls from Turnep- seed, new-sown Corn, or Fruit-trees, at any Distance from a House, by a Mixture of cheap Ingredients. To sow Barley in April, and yet be as forward as that sown in March ; and to in- crease a Crop for Six-pence an Acre Charge, without the Help of Nitre, by which the Damage of Frosts, Chills, and Droughts are mostly pre- vented ; and which will keep off the Spoil of Worms, both in this Grain, and new-sown Wheat. To cure Distempers in Horses, Cows, and Sheep, as practised by Farmers. To keep off the Breed of the Caterpillar from young Turneps, Cole, Cabbages, and other Plants. To prevent the Garget, or any other Inflammation, in a Cow's Bag, and to increase and sweeten her Milk by a cheap Drink, given but twice to a Cow, as it is done in common by the Dairy Farmers in a cer- tain County. A new Method to supply the Loss of wild Pheasants by breeding them tame, as it*
is

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is now done by several Farmers for paying their Rents, and is a vast and cheap Improvement. How to destroy the Fox, Badger, Polecat, and other Field Fowls, that are pernicious to the Farmer, by new and easy Ways. To keep Eggs perfectly sound two Years for no Charge, so that, at the End of that Time, they may be set under Hens, as well as new-laid ones. The Culture of Canary, Coriander, and Carraway-seed, Teasels, the great-headed Poppy, and Dwarf-roses. A sure and most cheap Way to prepare Wheat-seed for preventing smutty Ears, keeping off the Worm, and causing a greater Increase, by several new Ways, without the Help of Brine, or Stale. To breed that delicate, large, hardy Fowl, the Bustard, as tame as common Turkeys in a Farm-yard, at the same Trouble and Charge, but for three Times the Profit. An Account of several Impositions practised in the Sale of Cows, Horses, &c. And that very useful, but copious, Account of raising Plantations of proper Fruit-trees; with a Thousand other curious and profitable Matters (never before published) which this and my other Monthly Books will contain, from the Experience of myself, Neighbours, and many others; who, undoubtedly, have been at great Expence and Labour in finding them out, and which, thus, may be enjoyed for a trifle Cost.

N. B. I

N.B. I furnish any Person with the *Three-wheel Drill-plough*, *Horse-break*, and other Instruments usually employed in Farming, to any Part of *Great-Britain* or *Ireland*, at reasonable Rates ; and answer all Letters, provided Postage is paid to my House.



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T H E



CHAP. I

Of Ploughs and Plowing.



YOU that have not begun Fallowing in last Month, fail not to do it in this. In the *Chiltun* or Hilly Country, it may be performed with the two Wheel single Fallow-Plough, with the two Wheel double Plough, with the Turnrise-Plough, and with three Sorts of one Wheel Ploughs, &c. In the *Va'e*, or low Grounds they use but two Sorts, The Swing-Plough, and the Foot-Plough : Of these I shall give particular Accounts, as follows :

And first I shall begin with the two Wheel single Fallow-Plough ; of which there are several Sorts now in Use. One is called the *Hertfordshire*-Plough, whose Ashen-beam is nine Feet long, its iron Share four Feet, four Inches in Length, and made with two Mortaises, weighing about 50lb. which by the Help of a broad Board so fortifies it, that it is strong enough, with its pecked Point, to plow through the most stony Land in this Country,

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whose

whose dry Gravels, tenacious Clays, and large Flints, very often try its Strength, and sometimes break it ; for which Reason we are frequently obliged to draw with four, five, and six Horses, who find Work enough to manage an Acre and an-half in a Day in dry Seasons. The Plough-man also is very often hard put to it, because he must be both an able and skilful one, to hold this Plough in such Weather and Ground in the Fallow-time : When the Stones cause the Handles to jirk and strain him to that Degree, as defies an ordinary Work-man to do it as it should be ; and thus in some of our hard gravelly Lands, they will wear out two or three Points in one Day, which cost six Pence each. Its Land-Wheel is 21 Inches wide, and its Thorough Wheel 24 Inches, and is drawn by Horses in a double Row.

The two Wheel double Hertfordshire Plough. This has two broad Boards, two Shares, two Coulters, and but one Beam ; but I shall here decline the particular Description of it, because I have amply done it in my last Monthly Book, *Page 97*, where you may see its excellent Uses, which, if thoroughly known to the World, would invite many Farmers and Gentlemen to send for them at twice their present Cost. And as I have had several Letters of late for this Purpose, to know first how much the Price of one is, I shall here, to save the like Trouble, set it down, *viz.* The Wood Work of the bare Plough, exclusive of any Part of the Wheel Carriage, will cost 16 s. The Iron Work of only the two Shares, two Coulters and Hooks, will cost 4d. *per* Pound, weighing in all near 70lb. so that the Plough alone will cost 40s. and as for the Wheel Carriage, it may be had in many Counties where the Plough Part cannot.

Turnrise-Plough. This is also a two Wheel single Plough, and far lighter than the last, because, though

Of Ploughs and Plowing.

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though its Wheels are higher, its Share is less than eighteen Inches long, being made with a round Socket and Point, weighing ten or fifteen Pounds, has no broad Board, but instead thereof, a roundish moveable wooden Turnrise, about four Inches Diameter and a Yard long, which, at every Land's-End, the Plough-Boy scrapes in wettest Weather, and shifts in less than a Minute to the other Side, whereby it will plow a Field without Hentings, and Losing Time and Labour to go round its Work, as all our *Hertfordshire* Ploughs are obliged to do, and is also of so clever and strong a Make, that it will out-do ours in plowing among large rocky Stones, and entering the Earth deeper, by the Help of its round Share and Timber; which is so very serviceable, that I heard of an obstinate Farmer, who going out of our County, to live towards *Orford* in *Kent*, would make Use of no other than our broad Board-Plough, till he run himself out of several hundred Pounds: But at last being persuaded to lay it by, and work only with the Turnrise Sort, as his Neighbours did, he recovered his Losses; and the Reason they assigned me for his Running out was, that, his Farm being a very deep Mould, our *Hertfordshire* Plough would not go deep enough to extirpate the Roots of Weeds, and raise the best Earth, which the Turnrise would effectually do. This Instrument is likewise most serviceable in plowing the Sides of steep Hills, which it will do the best of all others, because it plows the Ground all one Way, that no Sort whatsoever besides can perform so well; and is of the greater Use, by Reason the making of Hentings, and Plowing two Ways, according to the common Method of round Work, will not here answer the Farmers Purpose. In short this well invented Machine will plow up their hard Chalks, Gravels, and stony Clays in Fallow Season, better

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than any other Sort whatsoever, and will perform round Work, or any other Operation, that a Fallow Wheel-Plough is used to do. There are also some of these with a flat Chissel Point about two Inches wide.

The Jockey, or Flemish, two Wheel single Plough.— Is used in Fallow and other Seasons in sandy and light Loams, having only its single Staple for a Handle, by which the Plough-man wholly guides it by one Hand, and at the same time with the Help of a small Cord or Line, which he fastens to the Horses Bits, he drives two Horses a-breast, and one before, and sometimes three in a-breast, but commonly only two, all Day long without the Help of a Boy; and that in performing most Sorts of plowing, being a much lighter Instrument than all others that I ever saw of the Wheel Sort. Its turn up Beam being about six Feet and a half long: Its flat winged iron Share weighing about eight Pounds, being a Foot in Length, made to put on a Socket of Wood, and held steady by an iron Hook from the Beam, with a broad Board of Wood, but generally with a thin hammered Iron one, where there is a weak Team: But if it is a strong Team, they have of late got into the Use of one made of Cast Iron, that costs about six Shillings, and will wear many Years. This light short Plough is drawn by a high Carriage, whose Wheels are above two Feet Diameter, sometimes ringed with Iron, and sometimes with intire Wood lapped round the Spoke; and though this has but very lately come into use in *England*, yet it has in many Places supplanted the Foot-Ploughs that were in use before this.

The one Wheel Gloucestershire single Fallow-Plough.— This, though it has been in *Gloucestershire*, and elsewhere, some Time, is but lately introduced among our Farmers, as being much lighter than our two
Wheel

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Wheel Fallow-Plough both in its Wood and Iron Work, has a Share with only one Mortaise, has two fixed Handles, a Yard long each, which, with its single Wheel, joined to the Beam near its fore End, keeps its pecked Share from entering the Ground too deep, and makes it turn easy at the Land's-End; all which Conveniencies save one Horse in four, in Comparison of the two Wheel *Hertfordshire* Fallow-Plough: In short, this one Wheel Plough, which is drawn by Horses in length, differs from some of the Foot-Ploughs only in its Wheel, whose Diameter is about eighteen Inches, and will perform various Works in our *Cbiltun* Lands; but its Wheel is very apt to overturn, and thus becomes troublesome to the Ploughman, so that now it is in less Repute than before.

Overcheek one Wheel Plough.—This new invented Plough is also worked with one Wheel, of about a Foot Diameter in the Clear, that turns round directly under, tho' at some Distance from the Beam: It performs well in sandy, stony Lands, because its Socket Share is fixed on a round Piece of Wood, and goes steady: It is also used in chalky Grounds to great Advantage, because it proves a light Plough after the Horses. We are Strangers to this Instrument in *Hertfordshire*, but I have seen several of these, as well as the Under Cheek-Ploughs, used in a certain County that I have travelled through this Summer 1738. *Undercheek one Wheel-Plough.* — This differs from the Overcheek Sort, only by a little Alteration in its Make, some have one, and some the other, even in the same Parish. One will not clog in dirty Weather so soon as the other, and therefore preferred by some; they are both pretty Sorts of Ploughs; but more of these two in next Month.

The Foot-Plough. — Of this there are several Sorts, one with a straight Beam, between eight and nine

nine Feet long at *Chesterford*, near *Saffron-Walden*, that I have seen drawn by two Horses in a-breast, in a light loamy Ground, and drove only by the Ploughman without a Boy, by the Help of a four Horse Coach Whip, whose Thong and Lash I measured to be above nine Feet. But the common Sort of Foot-Plough has its Beam a little bending towards the End, of about six Feet long, a broad Share, and is used chiefly in ridging up Vale Lands, and casting them down. This, for its extraordinary Lightness, of late is drawn by two and three Horses in Length, in our *Cbilton*, gravelly, and stony Grounds; because, by the Help of a pecked Share, it saves the Draught of one Horse in four, which we are obliged to use for the same Work with our two Wheel Plough.

The single Mortaised Foot-Plough is used in our *Cbilton*, stony Grounds, to draw out the Sleaving and Ridge Thorougths of the Wheat-Stitch, and which is immediately followed by the Wheel Wheat-Stitch Plough, that hents up and finishes the Stitch; and why the Foot-Plough does not perform the whole Work, is, because it is apt to wabble, and not go so straight as the Wheel one; yet this may be contrived to go more steady and even, if it is made with two Mortaises and a pecked Share, as some have them. Others for this Purpose, instead of an iron Foot, have a small iron Wheel, about six Inches Diameter, that causes an easier Draught to the Horses, when they perform the last Plowings with it, for sowing Barley, Turneps, *French* Wheat, Weld, &c. by only two Horses in length, which helps forward the Sowing of Corn with a weak Team. The Foot-Plough is also very valuable for plowing up Turnep Ground shallow, that the Sheep's Dung may not be buried. The same Conveniency answers when Pease are sown, broadcast, and plowed in. Operations that cannot be so well

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well performed by the Wheel-Plough, because it goes so deep, as makes it apt to bury the Corn, and many Crops have suffered by this very Means.

The Drill three Wheel Plough.—In my next Monthly Book I shall give an Account of this excellent Instrument, and so of the *Pulley Drill-Plough*, which is also of very great Service; *Breaks, Hough-Ploughs, Prong and other Spades*, are likewise to be described in the next Monthly Book, and their several profitable Uses amply explained.

The Swing-Plough, — Is a Sort of Foot-Plough, much used in *Middlesex*, in their flat clayey Grounds. Its Beam is raised higher, or lower, at Pleasure, by Ropes fastened to a Cart-saddle on the hindmost Horse. With this light Instrument they lay up their Lands in three and four Bouts, and it is drawn commonly by Horses in Length: And it is in this Sort of situated Earth, that I observed they often lose great Part of their Crops for Want of getting it into a timely Tilth, which in my humble Opinion they might more expeditiously do, if they used our two Wheel Pea-Stitch Plough, or a narrow Fallow Wheel-Plough, in the Summer-time especially, after their Ground has been fallowed by their Swing-Plough. And that, by plowing it across into single sharp Bouts, and afterwards by plowing them down again with the same; which, after due Harrowing, may then be plowed, with their Swing-Plough, into their common three and four Bout Lands, in order to sow Wheat.

The Creeper or Bobtail-Plough,—Is a two Wheel-Plough, differing but very little from the Fallow Wheel-Plough, but that its Share is only three Feet in Length, and but one Iron Mortaise. Its Work is to plow up Stubbles, particularly in *Chilturn* Land, in wet Weather, because its Share, not being fastened to a Staple behind, gives room for the Earth to tumble off, that it does not hang on,
and

and load the Plough, as it is apt to do in the long Shared Sort. Some so affect this Plough, that they make it their common one in Fallow and other Seasons: But in very dry hard Grounds, this Plough is not capable of making its Way so easy as the double mortaised Fallow Wheel-Plough can. But there are several other Sorts of Ploughs that are to be used out of the Fallow Season, that I intend, in proper Months, to give an Account of. In the mean time, all, or any of the before mentioned, if any Person thinks fit to furnish himself with, I will do it at their prime Cost, only allowing me what is reasonable for my Trouble. For where a Farmer occupies a hundred or more Acres of arable Land, he cannot be compleatly furnished without most of these Sorts, especially if he lives in a *Chilturn* Country, and his Ground is of several Natures, which is very common. But I will suppose it to be only one Sort, and that a Loam; they are then still necessary, because of the several Conditions their Ground may be in, in different Seasons of the Year, &c. A Proof of which is obvious in the more plentiful Production of Corn, Turneps, Grass, and other Vegetables on the Land of him who is Master of most Sorts of these Ploughs.

Operations of different Ploughs.

Fallowing a stiff Soil. — If a Crop of Beans or Pease grew last on four thorough Stitches, then either with the double, or any of the single Fallow-Ploughs, plow them into four thorough Stitches again; the first will do it at a Bout, or going once backward and forward, when the single one must be drawn four Times in all; and by this Sort of plowing is almost all the Ground removed, so that, where the great Partition-thorough was before, the Ridge of the Stitch lies now. The next time, or the first Stirree, plow it again in the very same Manner;

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Manner; but, the third Time or second Stirree, the Stitches should be plowed into Bouts, with the single Fallow-Wheel-Plough. After this it should be thoroughed down, and harrowed plain for plowing the Ground next Time cross-ways, and sowing Wheat in Stitches.

A second Way to fallow a stiff Soil, — Is to plow Barley, Oat, or Pea Subbles, that lay in broad Lands before, into broad Lands again, which is what we call clean Plowing; and, after it has lain some Time, either harrow it or forbear, as the Ground is more or less fine, and bout it a-cross; then, at the next Operation, bout it again off the last Bouts; after this, thorough it down, and harrow it plain for plowing, and sowing Wheat in Stitches, or broad Lands. These are the two best Methods for reducing stiff Clays, or sour Loams, into a fine sweet Tilth against *September* for sowing Wheat, for these tenacious surly Soils will seldom yield to a single Bouting; therefore, for Assurance, the most judicious Husbandmen, in our *Chiltun* inclosed Country, commonly give them two; however, this Work should have been begun in *April*.

A third Way, — 'Tis the Method of some to fallow their stiff Ground which lay last in broad Lands into Bouts; the next Time they plow it into Bouts again, after this, they thorough down the Bouts, and harrow it plain, when it is ready to plow and sow their Wheat. But this last is not so good a Way as the two former, because it does not clean the Land so well; however, this ought to be well observed, That two Boutings are better than once four Thoroughing, tho' the single Wheel-Plough goes not oftener in two Bouts than in one thorough Stitch; yet is the Bouting far more preferable on Account of its laying the Land deeper and sharper up, for the Sun and Air to penetrate its Body the easier.

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A fourth Way.—Others again having Pea-Stitches, which, when last sown, were harrowed down very flat, which Posture makes them fallow it into four thorough Stitches a-cross the former, and after they have lain some time, they harrow them lengthways, and make Bouts off the four thorough Stitches; then they bout it again, but the next time they thorough them down, plow, and sow their Wheat in Stitches on a stiff stony Ground. As I said in last Month, better an *April* Sop than a *May* Clot; yet this Neglect often happens, by Reason they have no other Grass than what the Fallow-Land affords to feed their Ewes and Lambs, but then such Farmers run a great Risque of a good Tilth, either for Turneps or Wheat; however, better late than never, remembering well that a late Fallow makes a raw Tilth, unless a dry Summer succeeds. Again, the Effect oftentimes of a late Fallow is, that your Wheat will be overtaken the following Year with the destructive black Ben-net, &c. which generally, where it is thick, ruins a Crop of Corn, and then see if Weeds will pay Rent. The good Husbandman, who fallowed the Beginning of *April*, the latter End of this Month, will be making his first Stirree, when the bad one will be only fallowing his four Ground, as may be too often seen in but little Distances, with Regret, by Men of Judgment, who travel the Country.

Plowing easy.—Now you, that keep but two or three Horses for plowing *Chilturn* stiff Land, may very likely, in this Month, meet with dry hard Soils, that require four or six Horses to draw the Wheel-Fallow-Plough, which turns a Thorough of 12 or 14 Inches broad, and proves too hard for weak Teams. To remedy this, use the Wheel Stitch Pea-Plough, which turns only a Thorough of about eight Inches broad, and you'll find it go easier by one Horse in four than the other can; and indeed

it is much better for the Land, because it cuts it into narrower Thoroughs, and therefore fines it sooner, and prevents the Growth of Weeds much better; so likewise will the before-mentioned one Wheel, or Foot-Plough do as being much lighter in its Iron and Wood Work. But where you have a strong Team, the two Wheel Fallow-Plough will certainly do the most Work in the least Time; and where there is Occasion to use this sort of Plough much, it is very well worth while to have two Sorts of them, one to plow Bouts with, and the other broad Lands; that for Bouting should have a broad Board an Inch higher than the other, that it may lay up the Ridge secure and sharp, and its Sheaf and Share pitched more landing than the common Sort. But, besides the Pea-Stitch and Foot-Ploughs, the Bobtail-Wheel-Plough is now much used for a weak Team, for that its picked short Share will not clog like others, but is lighter both for the Horses and Man.

The Sluggard Husbandman.—It is an old Saying, that the Sluggard Husbandman succeeds once in seven Years, but of late it fell to his turn oftener, for, in the Years 1734 and 1738, the Weather was so mild and wet, that it caused the well-dressed Grounds to produce such rank Wheat, that it yielded hardly above half a Crop of Corn, but a great deal of Straw, and at the same time so fertilised the poor rough tilled Lands, as made them return full Crops. We say a dry *March*, a wet *April*, and a dry *May* make Plenty; but if these three Months are wet, there will be a great deal of Straw, and little Corn. But now you, who bouted up your Oat and Pea Stubbles, for sowing Turneps in *June*, should have bouted them off the last Bouts in *March* or *April* at farthest; but you that bout for Wheat, and have not done it last Month, neglect it no longer than this. He is an ill Husbandman that has a Tilth to make, when he wants it.

A quick Way to make a Tilt. This I never knew but one Man do, which was after the following Method, viz. at a Fallow-time, either in this or last Month, where the Ground was not too clung and hard, he bouted his Stitches or broad Lands, till he had done ten Bouts; then immediately returned where he begun, and bouted off the last Bouts, and in this Manner proceeded till he had done the Field: Now why he plowed in this uncommon Method, was to make a Tilt of the Ground as soon as possible, for single Bouting, in it self, is reckoned but half Plowing, but this double Work in one Day is whole Plowing; yet I don't doubt of an Objection in this Case, and that is, by so doing, he turns up the Grass again, which he plowed in the first Bouts; to this I answer, that it is an Argument of no great Force, because the Earth is all, or most of it, removed from one Place to another, and thereby in a great Measure prevents the Re-growth of the Grass and Weeds; but there will be no need of any such Objection, if such Boutings are performed in dry Weather, for then one Plowing is oftentimes better than two in wet Seasons.

How to plow a Clover-lay, in order to obtain a good Crop of Wheat.—You that design to sow Wheat in a good Tilt after Clover, plow it up immediately after the first Crop is eaten or mowed off (as is commonly done in this Month) into broad Lands, for the Crust to lie and rot; then, about six Weeks after, harrow it plain; when this is done, hack it across, and so let it remain till after Harvest; then harrow it soundly, and if it is fine enough, dung or fold, and sow Wheat in Stitches: But if it is not a thorough good Tilt, hack it a second Time across the last Way, then harrow it plain, dung, and sow.

Plowings to be performed in May.

For Wheat.—Towards the latter End of this Month the first Stirree, or second Plowing after Fallowing in *April*, is generally done in the *Chiltun* inclosed Fields; this is by some called *Twy-fallowing*, and is either performed in broad Lands, in Bouts, or in four thorough'd Stitches, for sowing Wheat in *September* or *October*: If in Stitches, off a broad Land, it is the most difficult Sort of Plowing of all others, because the Plow-man has here no Guide, but his own Judgment to direct him; whereas, when he makes a Stitch off a Bout, or off an old Stitch, he cannot well miss it; but he that can raise a four thorough Stitch, and lay it round and handsome off a broad Land, is a Workman indeed. This therefore, as I said before, is an excellent Way to prepare all stiff Grounds for Wheat, because it best kills Weeds, sweetens and hollows the Earth, and exposes it beyond all other Methods, to receive the nitrous Influences of Air, Rains, and Dews.

Bouting for Turneps.—In this Month likewise, some will stir that Land which they fallowed in *April* in broad Lands; thus, they first harrow it across, and then bout it across; after which, it is to lie some Time, then they back-bout it; in the next Place, they first harrow it plain overthwart, and plow it across into broad Lands, for harrowing in Turnep Seed. This is an approved Way, to reduce a stiff Earth into a sudden Sweetness, and make it very fine with all.

Hacking for a Crop of Turneps.—In this Month also, that Ground which was fallowed in *April* into broad Lands, for sowing Turneps in *June* or *July*, is commonly stirred in this Month into Hacks, which after they have lain a Week or Fortnight, the Hacks are to be harrowed across; and then, just before they

they sow Turneps, they draw out their Thoroughs across, and plough across, the last Way into broad Lands, in which they harrow their Turnep-Seed; and thus a stiff Soil is expeditiously brought into a Fineness, for this useful Root to grow into a desired Bigness.

A Process of plowing up Bean Stitches, for sowing Barley and Honey-Suckle Seed.—In November 1735, I plowed a Field of four thorough Stitches into four thorough Stitches again, which lay in this Posture till the Beginning of March, when I back-bouted the Stitches, and let them so remain till about the first of April, and then I harrowed it plain: After this I plowed the Ground into broad Lands a-cross the last Way, and immediately, on the rough Earth, I sowed short Horse-dung well rotted, that I had saved under Covers the Winter before, mixing with it Rabbit-Dung, Hen-Dung, and Ashes, which, with the Help of Chamberlye, made together a rich Composition; then I directly sowed two Bushels of Barley Seed all over one Acre of this rough Land, and harrowed it plain once in a Place after the Seeds-man; which as soon as done, I sowed two Bushels more of Barley all over the same Ground, that was followed by the Harrows twice in a Place, the same Way it was done before: Then I sowed 16 Pound Weight of Honey-suckle Seed, and only harrowed it once in a Place across the last Way, which filled in the Thoroughs, and laid the Ground all even; thus I finished a one Acre Field, that was in this Manner laid down for good, to become a Meadow in time for feeding Cattle. And here I should have published a Case, that a Gentleman sent me, of converting a low wet grazing Ground into plowed Land, by way of Improvement, with my Answer to the same; but I have not Room. *N. B.* I answer Letters between *Michaelmas* and *Lady-Day*, provided Postage is paid to my House.

C H A P. II.

Of Barley, Wheat, &c.

THE *Nature of Vale Land for Barley.*—In the large and fertile Vale of *Aylesbury*, as well as in most other low Grounds, their Earth is generally of a black and bluish Clay, or a marly dark coloured Loam, clear of Stones, which in Winter is very apt to stolch by the Tread of Cattle, and by the Wash of frequent Rains that easily converts it into a muddy Consistence, and in frosty Weather from a stiff Clot, it is presently reduced into a soft crumbling loose Body, which readily lets out the spiry Blade of new sown Corn; also in this their low Situation, they are very apt to suffer by Floods, which sometimes are so long retained on their stiff Soil, that the Vale appears almost like a little Sea, ruining their Grain, and rotting their Sheep: On the Contrary, in the Summer Time, their open Fields are soon dried, and their clayey Surfaces become so hardened, as to cleave asunder much more than any other Sort of Land, whereby their Barley in particular is often stunted in its Growth, and dwindles into a short, lean, thin Crop, on their high, exposed, ridged Lands; which at first was invented for the Security of their growing Corn against overflowing Waters.

Time of sowing Barley in the Vale.—The Vale-Farmer thinks he runs a Risque of the least Danger, when he sows his Barley about the Twelfth of *March*; for though, by this early Sowing, he is under the more Danger of being hurt by Floods and Frost, yet is he also intituled to the Hopes of a moderate, moist Time afterwards, that may bring on such a timely Head of Barley, as to cover and shade its Roots soon enough, to withstand a
dry

dry Summer, and so enjoy a plentiful Crop at Harvest. But if, to avoid the ill Effects of *March* Floods and Frosts, they should defer sowing their Barley till the Beginning of *April*, which they seldom do, then they are under no less Apprehension of suffering by succeeding Heats and Droughts; so that after plowing, sowing, and paying Rent two Years together (which they here do when they fallow for Barley) without receiving any Profit, they frequently come off with half Crops. Now to prevent the great Losses that thus may happen to Crops of Barley, if sown late in *April*, and even at the Beginning of *May*, observe the following Account, *viz.*

A most excellent Receipt for increasing Crops of Barley.—Take one Bushel of Barley, and boil it in six or more Pails of Water, till the Grain bursts; Strain out the Liquor, and give the Barley to the Fowls or Hogs; while the Liquor is hot, dissolve in it three Pounds of Crystal Nitre, and a Quarter of a Pound of green Copperas in Powder: To which add one Quart of pure Soot, and as many Pailfuls of Water that drains from a Dunghil or Urine of any Sort, as will, when the Grain is put in, make the Liquor swim four or six Inches above it. Now observe, as soon as the Nitre and Copperas are dissolved, and while the Water is hot, to pour it on three Bushels of Barley Seed, into a Tub with a Cock and Tap Whips, and then immediately put in the Dunghil Water and Soot, as aforesaid. Let the Grain lie soaking herein, from one Evening to another, when the Liquor must be drawn off, and the infused Barley laid in a Heap all Night, on a Floor to drain. The next Morning, with a Shovel, mix it well with powdered Lime, and carry it in a Sack to be sown in the Field. The Liquor that is left will serve again with fresh Addition, and is admirable to water a Garden

Garden, or make a Tree grow to Perfection in Half the usual Time, if judiciously applied; and thus you may carry on your Sowing of Barley many Days, by as often renewing the Preparation I have here plainly given Directions for: And accordingly, by punctually observing them, you will, by the Blessing of God, certainly find the Barley to spread with large Blades, and be of a blackish, green Colour, soon after it appears above Ground; for it is the Nature of the Nitre to agree so well with this Corn in particular, as to cause it to grow up into twenty, thirty, or forty Stalks, from one single Root, which will so cover the Ground with their branching Tops, that the Wets and Dews will easily make a Lodgment, and the Roots likewise be so well secured from the Damage of Droughts, that, if no Rain happens for two or three Months together in the hottest Seasons, there will be Moisture here enough to carry forward the Growth of the Crop in Clays, Loams, and even in Chalks, Gravels, or Sands; besides which, there is this good Property belonging to this Process, that the Barley at Harvest is generally all of one equal Ripeness, which renders it the compleatest Sort, for making true Malt: By all which Management, if your Ground was in a fine Tilth, dry, and well dressed with good Manure, when the Seed was sown, you need not doubt of having seven Quarters off an Acre.

The Sort of Barley to be sown in this Month. By some, Barley is sown the Beginning of this Month, oftener out of Necessity than Choice: As when the Farmer, by Multiplicity of Business, can't get his Land into a fine Tilth Time enough, or that he has not eat his Turneps off before now, or is retarded through the Inclemency of Weather. In all which Cases, the Rathripe, or *Fulham*, Barley is now the properest to sow, either in Vale or Chil-

turn Lands, because it grows quicker than any other Sort; for, though it is sown late, it is early ripe, and will prove the best of Barley for Malt-
ing, after being once sown in Loams or stiff Lands, which gives it a much larger Body than the sandy Ground it came from: So likewise in Chalks, Gravels, and Sands, in case you should happen to be behind-hand in sowing your Barley, which more particularly ought to be done, in such hot dry Soils, sooner than in this Month, you ought by no Means to neglect steeping the Seed, in this my excellent nitrous Liquor; because, at this Time of the Year, the Droughts are commonly more powerful, and will sooner burn up the green Barley in such dry Soils, if sown in the naked common Way.

The Opinion of a certain Virtuoso, concerning steeped Barley. “This I take, *says he*, to exceed the dry
“Sort, in making stronger Malt: for as Nitre is
“so essential to Vegetation, that it is its funda-
“mental Principle, and the Grain by being there-
“with fully impregnated and saturated, when it
“enters the Ground, immediately joins in Con-
“tact with that in the Earth and Air, which
“causes it to shoot into many *extra* Roots and
“Stalks, which serve (as a Reservoir) to lodge
“and retain the nitrous Salts, till, the Corn increa-
“sing in Growth, they are, by the alternate In-
“fluence of the Dews and solar Heat, so rarefied
“and exalted, as to insinuate themselves into the
“vegetative Juices; and as the hot Season advan-
“ces, these Salts become more and more fixed in
“the Grain, by the Exhalation of the phlegmatic
“Part of the Sap, which thus ripens the Corn,
“and then leaves Plenty of a large full-bodied
“Grain, distended and loaded with the aforesaid
“Matter; which, consequently, must yield a
“greater Spirit (when malted) to the Liquor
“brewed therefrom.”

The Quantity of Barley Seed to be sown. On this Account, I shall observe, that the Quantity of Seed ought to be proportioned to the Nature of the Soil, Tilth, and the Season of the Year. *First*, as to the Soil: On stiff Loams and Clays, some will sow, in the common Way, four Bushels on one Acre, because, on this surly, cold Glebe, the Seed is very apt to bury, chill, and die; and therefore such Land should be assisted with good warm Manure, as will enable the Barley to grow thick, and kill the Weeds, which, in such sour Ground, are very apt to get rampant, and destroy the Corn. On the Contrary, in many of the light, sandy Grounds of *Norfolk* and *Suffolk*, they sow but one or two Bushels on an Acre, and, if they increase the Quantity of Seed, it is as the Land is heavier: Because, as they say, their light, poor Ground is not able to carry more; for, if they were to sow it thicker, such Land would return an hopper-eared Crop at Harvest, or, in plainer *English*, a little Ear, with a few Kernels.

Secondly, If a stubborn Soil happens to lie in a sour Tilth, as it is very apt to do, there must be the more Seed sown, to allow for a considerable Loss, by the Cover that the clotty Part of the Earth will cause, and so deceive the Farmer, if he allows not enough to prevent this Misfortune. On the Contrary, when Land is in a fine Tilth, the less Seed will do; and this is one Reason why in sandy Grounds they sow so little Seed; for that, in such pulverised Tilths, hardly one Kernel misses coming up. *Thirdly*, If you sow late, there must be the more Seed sown, for it is a standing Rule in Husbandry, that, the later you sow any Corn, the more Seed should be allowed; because then the Grain will never gather, branch, nor kern so well as the more forward sown, as being drawn up so fast by the powerful Attraction of the Sun, that

it will run apace into Stalk, and less into Corn; and because the Fowls, in late Seasons, live mostly on the Grain sowed then, as having little elsewhere for their Subsistence; and here they have sometimes a long Opportunity to scratch with their Feet, and dig up with their Beaks, the Barley Corns, before their Blade is seen above Ground, when a dry Summer directly succeeds the new sown Grain, to the Destruction perhaps of Half the late sown Crop; from whence I take the Opportunity to urge the Necessity there is of making Use of my invaluable Method of steeping the Barley Seed, which surely prevents the fatal Consequence of sowing late, by causing it to run into Branch in the driest Seasons, and thence into many and large Ears of Corn: For the obtaining of which, let this be always observed, that wherever four Bushels of Barley Seed was used to be sown, in the common Way, there must be but three Bushels sown of the steeped Seed; and so in Proportion for any Ground whatsoever, that there may be Room enough allowed for each Kernel, to make its many and strong Branches or Stalks.

To reduce a rough Tith, and make it fine presently for Barley. Now in Case your Land lies rough and clotty, the spiky Roll I mentioned in last Month (*Page 17*) may be of Service to go before the Harrows for reducing at once the surly Glebe into a fine Condition; but where this new invented excellent Machine is wanting, then use the common Wooden Roll, and your Harrows directly after that, and sow your Barley; but never roll it as soon as sown, as some injudicious Men have done, and so bury great Part of their Barley Seed, but roll it some Time after, when it is about Half a Handful high; as I have more particularly treated of in my last Month: And what great Importance such a spiky Roll is of, for suddenly reducing

reducing all stiff, rough Ground in a dry Summer, that Farmer must consequently experience, very much to his Profit, who is furnished with such a ready Conveniency.

Sowing Barley Seed in Chiltun Lands. For this, we plow our Ground into broad Lands of nine Steps broad each, by some called *round Work*, by which a Water-Thorough lies on each Side of it, and a small Ridge or Rising in the Middle: Here the Seedsman goes about a Yard off the Thorough, and sows a Cast, then returns the same Distance of the Ridge, and sows another Cast, crossing the same Ground with his Throw, whereby it is twice sown over, and thus again, on the other Side; by which Means the Seedsman goes twice up and down a broad Land, before he has done sowing it; but the new Way of sowing Barley in dry Loams or Gravels, &c. is to do it in a double, broad Land: That is to say, instead of our common Lands of nine Steps broad each, we make them eighteen Steps broad, and then there will be but Half the henting Thoroughts in the Field, which saves Time and Labour, and the Corn will come evener and better; because the Grain is seldom so good in the Thoroughts, as elsewhere: Here, when the Seedsman begins to sow, he proceeds in the Middle of each Land, and at every Step he makes a Throw on Half the Breadth; thus at two Throws he sows the Breadth of a whole Land; and when, at the End, he returns and sows it in the same Manner back again, in an opposite Way, by which he sows the Land twice over. This Method is allowed to be the best of all others in dry Grounds, but, in wet Soils, the narrow Lands are best, because, the more Thoroughts, the drier they lie,

Sowing Barley in Vale Lands. These admit of four Sorts of Shapes, according to their Nature and

and Situation. *First*, In the Vale of *Aylesbury*, they always lie in one Posture of Ridge and Thorough, and are sowed at twice; the first Cast of Barley Seed is plowed in, and then immediately another is sown and harrowed in, to make it all come even. *Secondly*, In their low Grounds about *Rickmansworth*, they make their Lands eight Bouts wide, or four Steps and a Half broad for sowing Barley and laying it dry. *Thirdly*, In some Parts of *Middlesex*, they sow their Barley in four Bout-Lands, for the same Purpose. *Fourthly*, In some of the Eastern Parts of *Hertfordshire*, they plow their Ground into three and two Bout-Lands, to keep the Barley from being drowned, which they harrow so even, as gives the Scitheman Liberty to mow down the Corn almost as well as in level Grounds.

A new Way of increasing Crops of Barley by sowing it in Drills. This Method is lately invented for destroying the several destructive Weeds, that used to spoil many Acres of Barley; particularly, that called *Bodle* or *Gould*, which commonly, in sandy and other light Grounds, comes up in great and tall Branches, with their yellow Heads, notwithstanding the Earth before Sowing was ever so finely plowed, and which keeps Company with the Barley to the last, so thick as to defy the Weed-Hook or Hand for keeping it down, and is so common a Weed, that few sandy Fields are free from it. It is therefore, that they very judiciously, of late, sow their Barley in Drills or Furrows, in such Sands, Loams, Chalks, &c. as are clear of Stones, and will easily admit of this Operation by a most excellent three Wheel-Plough, which lets the Barley out of a Hopper, in a very regular Manner, into Drills, which it makes about one or two Feet asunder; and which by a small Alteration afterwards is to be drawn by one Horse, and made

made to serve as a Break, or Hough-Plough, for killing Weeds between the Rows of Corn, and moulding them up to a prodigious Advantage : Which Plough, as well as another just invented for doing the same Work, in low, wettish Grounds, I shall particularly describe in my next monthly Book, and there recommend their most serviceable Uses.

To improve Crops of Barley by the Fold. If, as soon as your Barley is sown, you fold your Sheep on the same, it will cause it to branch, and grow faster. But as this Husbandry may meet with its Inconveniencies, as well as be attended with Success, I shall here relate the two following Cases, which may be worthy your Observation, viz. A Farmer by me having had but a poor Crop of Turneps on a loamy Soil, that before had been but half plowed : When the Turneps were eaten off, he gave the Ground one Plowing, and harrowed in his Barley, on which he directly folded : But he had no Barley in many Places, and but a small Crop in the better Part. The Reason was, that, the Land being sour and clung, the Barley Seed had not room to be buried deep enough by the Harrows, so that the Feet of the Sheep trod it out of the Ground, instead of treading it in ; and this Misfortune was the greater for the dry Weather that followed after ; because, by this, the Seed was the easier displaced by the Tread of the Sheep ; whereas, had it been a wettish Time, it had not been so much raised out of the Earth. The other Case was thus : At the same Time I had a Field of Turneps, that was a good Crop, which, as soon as eaten off, I gave it only one Plowing, and harrowed in my steeped Barley Seed, on a loamy Soil in *April*, and immediately folded on the same, till the remaining Part grew above my Shoes in this Month ; and it proved an excellent Crop. The Reason was, that my Ground was made

made a fine Tilth by several Plowings before the Turnep Seed was sown, which by houghing, and the great Cover of the Leaves, the Earth was kept in such a hollow Condition, that the Feet of the Sheep helped to sink the Seed lower, instead of treading it out of the Ground. Therefore, none ought to fold Sheep on their Barley, unless the Ground is in a good Tilth, and lies loose; and then you will also avoid the common Danger of spoiling the Barley, by the Feet of the Sheep, while it is chipping or sprouting, because, when the Ground lies thus hollow, there is a sufficient Quantity of Mould to cover and guard it from such Damage. Likewise observe, that in Gravels, and other binding Grounds, if it is wet Weather when the Fold is over the Barley, the Grain will be so fastened in by the mortarising Nature of such Soil, and the Feet of the Sheep, that a great deal will never come out; however, by taking Care not to fold in a rainy Time, you may, on such Ground, carry on your Folding, till the Barley is five or six Inches high, and near spindling, with great Success: But, for further enriching Barley Land, some, that fat their Sheep on Turneps, will every Day dig up those which have been scooped by them, and feed their Store-Sheep with them every Night in the Fold, which these Sort will greedily eat after having been kept all Day on a short Bite of Grass; and thus such Ground will be three Times dressed, once by the fat Sheep, next by the Store-Sheep, and lastly, by the same after the Barley is sowed; and indeed this is the best of Dressing, not only for making the Corn stand fast against Storms of Wind and Rain, but also for causing a great Crop, and preventing its being damaged by Worms.

Barley fed by some, and by others made Hay of. On the first of May, 1734. A Crop of Barley of my Neighbour's

Neighbour's was so rank, that he fed it down with his Sheep (it being sowed the latter End of *February*) and it proved a very great Benefit to it, for it shot so strong afterwards, that it gathered into many Stalks from each Root: Yet is such Management to be done with great Precaution, for, though it may help some, it may spoil others; as for Example, if such a Crop of Barley was thin, the Ground weedy, and the Land not in good Heart, the Weeds would probably have gotten the better of the Corn, and spoiled it; but where the Ground is rich, and the Land clean, dry, and warm, it may be ventured on, in this Manner, with a good Prospect of Success. Sometimes Barley, in wet, warm Seasons, is so rank in this Month, that it is laid flattish, and then some will top it with a Scythe; others will mow it almost close, and make Hay of it; but then it must be done before it spindles, otherwise you may endanger the whole Crop.

Barley eaten by Worms. — The Winter 1735 being mild, the Worms lay in the Spring-time near the Surface, and destroyed a great deal of Barley, by gnawing it just above the Root. My next Neighbour sowed a Field with Barley early in *March*, that by the Middle of *April* was most of it devoured by Worms, and spoiled by them, and the Chill of a cold, wet Time, which brought him under the Loss of Labour, Time, and Seed, and obliged him to plant the same Ground with Garden-Beans directly: Now this Damage was brought on the more, by his dressing the Land with Dung, which, being of a warm hollow Nature, presently invited these Insects towards the Surface for feeding on it; and then, meeting with the new sprouting Blade of the Barley, it served them as a delicious Food, which they greedily eat after a long Winter's Confinement in their deep Cells; and the

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more, because there was no other Vegetable, at this Time of the Year, in the ploughed Ground for their Subsistence, as it evidently appeared in those Places where the Dung lay ; for here the Corn was eaten, when at the same time that escaped, which was not dunged ; and therefore Sheep-folding, Soot, Lime, Horn-shavings, oily or greasy Rags, or such as had been sprinkled with Urine several times, or Tobacco-Sand, or Peat-Ashes, and more particularly the Nitre, &c. with which the Barley Seed is loaded, are good Preservatives, and much safer against the Damage of Worms and Slugs, than common Dung. But this was not altogether occasioned by the Dung, for there was another Cause no less fatal to the Destruction of the Barley ; and that was a Lay of Clover, that this Field had been under two Years before, which naturally increased the Breed of Worms, for all Restings of Ground are as so many Friends to this Insect ; especially in wet, flat, loamy Land, as this Field was: An Instance of this was plain to my Observation, in some sandy Mud, that had lain three Years in the Side of a Hole, where Road-Sullidge run into by the Wash of Rains, which I had emptied every Year, but, a small Part of it escaping the Shovel, it became full of red Worms, the rest being intirely free ; therefore, many are so timorous on this Account, that they won't sow Wheat or Barley in such Ground, but a Crop of Oats first, which is less valuable, or Horse-beans, that is less hazardous. As to Wheat, I have happily discovered a new Secret, for soaking it in a Liquor, that will effectually keep off all Damage by Worms, and at the same time prevent any Loss by Smut, &c. and which I intend to publish in the Month of September.

First, *St. Foyne sowed with Barley.*—If you could not sow this Seed with Barley in *March* or *April*, it may be done the very Beginning of this Month ;

and

and it may prove a good Crop, if Showers succeed in due time; and for the better securing its Growth, and making it come forward, you may sow fifteen Bushels of Coal-Soot over an Acre, as soon as the Barley and St. *Foyne* Seed are sown, or you may clap your Fold upon it: But, of the Improvement of Barley, more in my next Monthly Book.

Common Wheat, its Condition and Management in May.—If Wheat looks yellowish in this Month, and continues so throughout the whole, it will never rightly recover that Summer; because then it is on its Shoot or Earing, and past Hopes: But if it is sick in the Beginning, and recovers before the End, it may chance to be a good Crop; for all Wheat should may, or look yellowish in *April*, and be of a black Green in *May*: Or take it this Way; if Wheat holds its Colour throughout *April*, and this Month, there is no great Danger of a good Crop. If it thrives in *March*, it generally may in *April*; if it thrives in *April*, it commonly may in *May*. When it may in *April*, it is right, but wrong if in *May*; for then it should, towards the latter End of the Month, thrive and shoot into Ear, instead of maying or yellowing; which is often caused for Want of the Ground's being in Heart, to enable the Wheat to withstand the cold and chilly Seasons. But, to be more particular, your forward sown Wheat often grows so luxuriant, in the Beginning of Winter, as to spend itself too soon, and especially, if followed with a mild Spring, which causes it to grow so rank, as to want Strength, in this Month, to carry it on, and then, in course, it must have a sickening Time to check it, in order to make it shoot with the greater Vigour afterwards. Now there are two Extrems of Weather, that sometimes happen in this Month, which prove fatal to Crops of Wheat: One is

Frosts, as it happened in *May*, 1734, when Hail-Stones fell successively for three Days, which being of a poisonous, cold Nature, and very heavy withal, beat down and hurt the Spindle of the Wheat, and Stalks of Pease, making the latter red-headed, and causing many to die : This was a Season so severe, that on the eighteenth Day the Icicles were seen to hang at the Eves of Houses ; but the poorer Sort of Wheat suffered most. On the contrary, at another Time, about the Middle of this Month, the Season having been mild and rainy some Time before, the well-dressed Wheat and Barley suffered much, by their luxuriant Growth ; insomuch that a great deal fell, before it was shot into Ear, which proved of very ill Consequence to the Farmer, because vast Quantities never did rise again, and did not half kern, especially in the Vale Grounds, which are the richest Soils ; and this Misfortune proved the greater, where the Wheat was youngest and weakest in Stalk ; for, when this happens to Wheat at an older Growth, it is often strong enough to get up and recover. When Wheat is rank too soon, it has tempted many to mow or feed it, in order to bring it under a more regular Growth : But as this Management is better or worse, according to the Nature of the Grain, Land, and Weather, and that there is a great deal to be said about it, I shall defer it for a more proper Month. But, before I leave this Subject, I must observe, that when Wheat is sown, at a right Time, in a proper Soil, and the Seasons of the Year prove favourable, there are many Acres that never may or sicken at all, yet hold their Growth and Colour from the first to the last, in right Order ; then such Wheat is in its highest Perfection. About the Middle of this Month, 1736, the Wheat in the *Chiltun*, high Ground, especially, looked short, yellowish, and sick, by

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means of a very long cold, dry Season, which ruined many Crops that were not well dressed, because the Ground had not Strength enough to make it run and rally again, as that in Heart did, and recovered. There was a Field of latter sown Wheat, which in the Beginning of *March* looked at some Distance, as if nothing grew in it; yet the Ground being clear of Weeds, and in tolerable Strength, and the Wheat not having spent itself in Winter too much, in the Spring it gathered to that Degree, that some of it had fourteen Ears from one Root, as it grew in a loamy, gravelly Clay, and proved an excellent Crop at Harvest.

Buck, Brank, or French Wheat, its Nature and Uses—It is the Opinion of some, that it does most good in Clays and clung Grounds to hollow them; others say, that it is best used in dry, binding Gravels or Sands, to keep the one loose, and the other moist; but, in some of the sandy Lands about *Godalmin*, they dare not sow it, lest it make the Earth too light for common Wheat; yet in heavy Sands, sandy Loams, Gravels, and such Sort of light Grounds, it is certainly best sown, either to plow in as a Dressing, or for Seed. In Chalks it is improper, because it loosens them too much. In stiff and wet Lands, it is apt to rot both in Root and Ear, as being itself a very succulent Plant, and of a tender, cold Nature, being easily hurt by some Winds, Lightning, and Frosts; and therefore warm light Soils suit it best, and, in all, it is a very great Killer of Weeds, where it grows thick, as it commonly does in Tilths, though you sow but one Bushel on an Acre, and is found by many to answer that great End, which all Farmers endeavour after; namely, to reap a great Advantage for a little Charge. I am the first, that have sown it in our Parts for a Dressing, though it has been sown in *Norfolk, Suffolk, Surry, Kent, and Berkshire* many

many Years, and is now more and more propagated, As I live twenty-seven Miles from *London*, it is a great Expence to have Manures from thence, for sometimes Soot is a Shilling a Bushel, so that 25 s. is the Charge of dressing a single Acre well, when Half a Crown will do in *French* Wheat, and yet this will kill Weeds, when Soot will nourish some; the Wheat-dressing will last three Years, when the Soot will last but two; the one is also the more certain than the other, for, in dry Seasons, the Soot, by its sulphureous Quality, will burn up a Crop of Wheat or Barley to a great Degree, when the *French* Wheat will remain a sure and certain Promoter of Vegetation by its moist, hollow, fertilising Nature: Again, Soot, when it is laid, to the Quantity of twenty-five Bushels on an Acre, forces so vehemently either Grass or Corn, that, after two Years, it leaves a Poverty behind it, which this is so far from doing, that it is almost a Dressing the third Year, provided it be a full Crop at first, and plowed in at full Bloom, when the Stalks are fullest of Sap: This Grain is one of the greatest Drawers of the Earth, and has returned four or five Quarters of Seed from one Acre, which is excellent for feeding Hogs, and Poultry. In Blooming-time, when this is to be plowed in, it is very serviceable for subsisting Cattle in a little while, who will tread it down, and make it the fitter for this Purpose. You, that dress your Land by Sheep, may fold them in another Ground, while this is provided for, and that without any Risque of your Cattle's breaking out into your Neighbour's Fields, for here is Meat in Plenty. So, when your Teams are all busy, in some Ground there needs but one Plowing to harrow your common Wheat in on this *French* Wheat: It may be sown in *July* or *August*, for Cattle to graze on it in *November*, or sooner. In

Shropshire

Shropshire they grind *French* Wheat very fine, and make thin Cakes on a Back or Bake-stone, which is two or three Feet diameter, on which they put a Sort of Batter made of this Flour, Milk, and Yeast, and when it is turned and done enough, they butter and eat it, drinking Butter-milk with it; this Cake is called *Fannock* or *Crumpet*, and is what old *Parr* of this Country eat all his Life: It feeds People to a great Strength and Stature.

The Culture of French Wheat. My Field was a gravelly Loam, that had a Crop of Oats last on it, and, on the tenth of *December*, I plowed it with the Wheel Fallow-Plough into Broad-lands, which I let lie till the Beginning of *March*, when I harrowed it plain, and then directly hacked it across with the same Plough. In this Posture it lay till the seventh of this Month, and then I plowed it again, and sowed rather above Half a Bushel of Seed on the rough Ground broad-cast, and harrowed it in once in a Place: When this was done, I immediately sowed my other Half Bushel, and harrowed across twice in a Place; by which Means I haled or covered it from the Fowls, and secured it better from the scorching Heats, than if it had been harrowed first before any was sown. If you sow this Seed, to plow its Crop in, for a Dressing to common Wheat, then you ought to sow it the Beginning of this Month, that you may have Time enough to plow it twice or thrice, which they do in some light Grounds, in Order to mix it well after it has first lain and rotted; but where it is to have only one Plowing in, then it may be sown the latter End of this Month. In some Parts, in their sandy Land, they plow it in with a Wheel-Plough shallow, and then immediately a Foot-Plough follows, and throws up a second Mould or Sand upon that, and then harrow in their common Wheat, to give it a deeper Bottom.

Bottom. Some, to have a Crop of this *French* Wheat, will make a Fallow and Dung for it, as for other Wheat. If it is sown for Seed, it may be done the latter End of this, or in all the Month of *June*; if Ground lies low and wet, it may be sown in two, three, or four Bout-lands; or it may be sown with the three Wheel Drill-Plough, and horse-houghed at several Times, and thus it will make it grow to a great Height, and produce Abundance of large Seed, if sown at

Feet asunder in Drills, which this excellent Plough makes, and at the same Time drops its Seed in the same out of a Hopper, in a most regular Manner, which afterwards must be covered by the Harrow: This Operation, though it is done for getting a Crop of Seed, yet, by this drilling and houghing Method, the Ground is finely prepared for a Crop of common Wheat to follow immediately this *French* Wheat, by plowing and sowing the same Ground cross-ways in four-thorough Stitches, or in Drills made in the last Intervals, and that without any Manner of dunging or other dressing; for the Earth being first made fine, and houghed up to the Rows of such Wheat, exceeds all Yard-Dungs whatsoever. As to the cutting, getting out the Seed, and housing this *French* Wheat, I intend to give an ample Account of it in the Month of *September*.

The Culture of Woold or Weld. This Month is a proper Time for sowing Weld among *French* Wheat: It is a Vegetable that is carefully cultivated by many Farmers of late in their light Soils, for these best agree with it, and though it grows well in dry Loams, Gravels, and sandy Loams, yet of late it has been found to flourish on chalky Bottoms, if the Seasons be kind; That is to say, if the Summer it is sowed in be dry, and the next a wet one: But it best of all agrees with dry, fresh Ground,

Ground, I mean where artificial Grass grew two Years before, and has had one Crop of Beans or Pease first off the same Land. Now the Reason why they sow Weld and *French* Wheat together is, because there is the longer Time to get the Earth into a fine Tilth, for both these Seeds require that in particular; it is on this Account therefore they sow Weld and *French* Wheat together the latter End of this Month. As soon as a Bushel of the latter is sown broad Cast, and harrowed in, they sow three Quarts of Weld-seed on one Acre, and harrow it in once in a Place, or twice at most, with light Harrows, for this is a small Seed, and will easily bury. The first Year they mow the Buck-Wheat off, and the next Year, in *June*, they pull up the Weld, and manage it as I shall shew in the next Month; and thus they will grow well together, because the Buck-Wheat kills the Weeds, and keeps the Weld from the Damage of Droughts. But this, like Turneps, is sometimes spoiled by the Slug and Fly in its Infancy; to prevent which, I intend likewise to make known a Remedy in *June* and *July*, that will effectually do. The Year 1738, a Load of these Stalks with their Roots was worth ten Guineas to the Dier for the yellow Colour. Weld will also grow among Oats, or Barley, sown in *March* and *April*, but not so well as with the *French* Wheat. Its of a hardy Nature, for it will sometimes grow on a course Tilth: I mean where Oats are sown on only one Plowing, this if sown with them will very likely grow if it is fine Weather at that Time; but then the Weeds should be carefully taken away, for as the Weld has but a small Root, its much endangered by them.

Cole or Rapes.— These that were sown in *July* or *August*, or *September*, may be fed 'till the Beginning of this Month, with Sheep, Cows, or Bullocks, and the same Land fallowed directly for Turneps

or Wheat. These afford the Farmer a vast Opportunity of Profit, for this, like Rye, may be fed in the Spring, when Grass and green Corn cannot; but the Cole or Rape exceeds the Rye, in that it may be fed earlier in Snows and near as late, for these will suffer themselves to be eat down two or three Times, and quickly recover again, which cannot so well be said of Rye. The Roots of these, being of the Cabbage Kind, draw very much Nourishment from a rich Ground, that forces them on, and gives them a new Head in a little Time, which again returns the Dung and Stale of the Sheep, to the great Enrichment of the Land and Profit of the Owner, who by this Means may keep his Money at Home, which otherwise must be expended in Dung, Soot, Ashes, Horn-shavings, Rags, and other chargeable distant Dressings, that are not so good and natural to the Land as this of Sheep. But as the Months of *July, August, September* are the properest Times in the whole Year for sowing Cole Seed; I shall enlarge no further on this Head at present, but defer it till then, at which Time I shall oblige the World with an effectual Method to secure it against the Fly and Slug, which are mortal Enemies to this valuable Vegetable while in its second Leaf.

Rye. — Your Rye that was sown in *August* or *September* is now eaten off, and your Ground in some Measure dressed with the Dung and Stale of Sheep or Cows, which makes such Land be the readier for another Crop. Some therefore will plow up and fold the same with Sheep, in order to get a Crop of Turneps or Wheat.

Turneps. — You that design to sow your Field with Turneps in this Month, I will suppose you do it, either to eat off forward with Sheep, in order to sow the same Ground with Wheat; or else to pull and sell them in *August* or *September*, otherwise

wise its too soon to sow them for a Winter Crop, because they will grow hollow, hard, and stringy before the proper Time of eating them with Sheep, unless you intend to eat the large red Turnep in *October* and *November* with horned Beasts. In order therefore to have the Turneps in full Plenty, and to make them grow large and quick: First and principally, let your Ground be well dunged, folded, or limed. In the next Place, the right Sort of Turnep should be resolved on. If for an early feeding or pulling, the *Dutch* white flat Turnep is a good sweet Sort, that will be ready to draw in eight or ten Weeks Time, if the Weather is propitious; in order to which, sow two or three Pounds of Seed on an Acre, and harrow it once in a Place, without any Pole on the Harrows, that they may be as light as possible, and it will prove a better Way than to harrow the Seed in with a Bush-harrow or Hurdle. But with us there are seldom any Turneps sown in this Month, because, as we feed Sheep with them, they will come too soon for a Winter Crop, and then they won't be near so serviceable to the Beast, as the late sown more young and tender Sort; for which Reason we seldom sow them before the latter End of next Month. Turnep Seed may also be sown out of the three Wheel Drill-Plough in Drills, which it makes to a Advantage at two or three Foot Distance each Drill, because here they may be allowed a large Assistance of houghed Earth to their Sides, the Weeds more easily destroyed, and the Turneps better pulled, to be eaten clean up in another Place. In this Month you may also sow the long *French* Turnep, called *Naveaux*, that are much of late in use for Soops, &c.

C H A P. III.

Of Weeds and their Cure.

ALL Authors that have wrote on Weeds (as far as I can learn) have left the particular Destruction of many of the worst of them to be found out. And therefore, I shall here endeavour to make known the best Ways of doing it in the common Husbandry of sowing Grain broad Cast, or by straining it out of the Hand, which is absolutely necessary; because in the large Vale of *Aylesbury*, and some others, as also in many Sorts of stony, hilly, clayey, and hurlucky Grounds, neither Drilling nor any other Way can be used. And although the Weed Hook and Hand are the most common Instruments for weeding Corn, that is thus sowed promiscuously, yet both in this old Way of Farming, as well as in the new Drill Way, the Plough and some other new Machines are certainly the best weeding Tools of all others, as I shall hereafter shew.

Of two new invented Weeding-Ploughs, the Sheim Break, Niget, &c.—It was in the Year 1737, about eighty-five Miles from *London*, that I first saw the three Wheel-Plough, which for its great Uses in multiplying Crops of Grain, Turneps, and artificial Grasses, and killing of Weeds, deserves Admiration, and to be made use of wherever the Ground will admit of it. The second is also a very ingenious Invention, to supply a Foot Plough as the other does the Wheel Sort: They are both made to drill Corn, Turnep, and Grass Seeds out of a Hopper; and with a little Alteration, will very expeditiously, and in the cheapest, surest Manner, destroy all Sorts of Weeds in the Intervals, besides keeping the Ground in a most fine Tilth, to sow

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a succeeding Crop; insomuch, that by the Help of these, Land may be sown, and Crops had every Year, without any Danger of breeding the wild Oat, or any other Weed, which would certainly happen, if it was constantly sown in the common Way without fallowing. The Sheim Break, or Niget, have also their Share in extirpating Weeds, as well as the several Sorts of Houghs, which are all of so late an Invention, that but few Farmers are now in Possession of them: But their great Importance will certainly, speedily bring them into Use more and more, because they may be so managed, as to save the Expence of all Manner of Manures or Dressings, and perform many other valuable Matters, that are too tedious here to enumerate; but I intend to be more particular in the Account of them in next Month.

Curlock or Charlock.— This is one of the commonest Weeds that grow among Corn, Turneps, &c. in Fields, and of so hardy a Nature, that where its got to a plentiful Head, its very difficult to destroy it, because its Seed has so much Oil in it, as enables it to withstand one Winter and Summer Fallowings. In wet warm Seasons it is, like most others, most predominant; so that about the Middle of this Month, it has provoked some to employ many Hands to pull both the yellow and white Sort up by their Roots; you may give it to Sheep, who will greedily eat their Leaves and flowery Heads. The yellow Sort grows in most Grounds, but the white, which is the most pernicious, chiefly infests the lighter Lands, and is not near so common as the other. There has grown so much of the yellow Sort in many Fields of Oats, which have so out-shot the Corn, as to oblige the Owner to get their seedy Tops mowed off, to prevent an After Damage from their Seed, and to give the Sun room to nourish the Oats the better. Others have

have used the five Foot long Weed-hook, and six Feet long Pea-hook to strike off their Heads, it being an endless Piece of Work to pull them with their Hands, where these Weeds are vastly thick. This Seed, which very nearly resembles the Turnep Sort, and is like it both in Leaf and Flower, is undoubtedly propagated with Turnep Seed, that it often grows amongst, and therefore Farmers should be truly nice in making Use of clean Seed, for a Turnep Crop. Curlock seldom grows among Wheat, but much among Barley, Oats, Pease, &c. where it does a great deal of harm, by its branching and choaking the Corn, and drawing a considerable Nourishment from the same Earth, that should be expended in forwarding the Growth of a large Crop: It mostly flourishes in Tilths and well dressed Grounds, but does not affect stiff and watery Soils: It is best killed, by making a Summer-Fallow of the Land, and by sowing the same, the next Summer after, with a Crop of Turneps.

Wild Poppey, by some called red Weed.— It chiefly grows in white and gravelly Grounds, but is often seen in Loams, and some other Earths. Its a very succulent Weed, that draws the Ground much, and robs it of those nutritious Salts which should fertilize the Roots of Corn: It runs up in large green Bunches, and therefore is best drawn by the Hand in this Month, for the Weed-hook is not proper here: Its Roots, Stalks and Leaves make an excellent Hay for tame Rabbits, as being both of a healthy and fatening Nature: Their Flowers or red Heads are also serviceable in making a salubrious Syrrup: Its mostly occasioned by too fine a Tilth, and when the Corn is sown in a dry Season, which makes heavy Plowing, and a moist Season its best Prevention. But a certain Farmer took a Method that I never knew any other do, and that was, because he thought it too tedious a

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Work to pull it up by the Hand, he turned his Hogs into his Wheat the very Beginning of this Month, and they preferr'd the poppy Stalks to those of the Wheat.

The red and white Dock.— This Weed runs into the Ground like a Radish ; as to the Shape, Depth and Bigness, it has a bunchy tall Head, that contains a great deal of Seed, and does much Mischief, where they are suffered to encrease, which is easily done, not only by their Seed, but by letting any Bits of their Roots lie on the plowed Ground ; where, though they have lain some Months in a shrivelled Condition, yet if they are mixed with the Earth, they will grow again. Some say they are good for Nothing ; others, that they are very serviceable in Diet-Drinks for cutaneous Distempers. In this Month their large Leaves and Stalks afford a good Handle to pull them up by. Some will draw them from among their Corn, but then they sometimes do a great deal of Harm ; because the Roots of the Grain are apt to come up with them, therefore others will do this Work in the Fallow-Seasons, by following the Plough, and digging them up in the Thoroughs it makes : Others, when a Field is under Clover, or any of the artificial Grasses, will haul them out ; but whenever they are weeded by pulling, it must be done when the Ground is pretty wet and loose. About *Enfield*, they use a clever Instrument for this Purpose, having a wooden Handle, let into a Socket of Iron, with two Prongs of the same, fixed very near one another, and a small Foot-Iron, jetting out on one side their Top, which being forced into the Ground, very dexterously eradicates a Dock at once.

Fern and Rushes.— These are sometimes a Foot or two high in this Month, and hurt both Corn and Grass. To kill the Fern, one mowed it in *May*, and twice the same Summer afterwards ; another whipt

whipt and beat it ; others, have plowed up a Grass Baulk, carried away its Surface, and plowed the same Ground again for Corn : But these Practices only check'd it. In a certain Park this Weed was killed by plowing the Ground several Times one Winter and Summer, till the Earth was got fine ; and then in *August*, the Owner sowed the same with Rye, which fed the Deer the next Year ; afterwards by plowing and sowing artificial Grasses, and roling the Ground at Times, he destroyed the Fern. But as Fern grows among Trees and other Places improper for using the Plough, there was a Role invented, of a very large Size, to kill the Fern, and it had the desired Effect : This Role was made with narrow Oaken Planks, two Inches and a Half thick, fastened by a wooden Pin, on three Wheels, that have only four Spokes to each Wheel. The Diameter of this hollow Role is five Feet ten Inches, and its Length above seven Feet, through the Middle of this an Iron Spindle or Axle-tree is fastened, to which the wooden Sharps are fixed to draw it by with two, three, five, eight, or ten Horses, according to the Weight you put into it ; for the Inside is made to hold Stones, Gravel or other such ponderous Bodies, to make the greater Pressure ; and though this Weed has been found to run more than eight Feet into the Earth, yet in two Years, the Role has killed it. It will also crush down Mole-banks, Ant-hills, and Casts of Worms, and level Grass-Ground the better for the Scythe. It has been observed not to grow any more the same Year, if it is mowed on *Midsummer* Day. The Rush that mostly infests wet Grounds, is check'd by sowing Coal-Ashes, Lime, Soot, and Peat-Ashes.

Wild Oat.— This Weed is notoriously known to be a most pernicious one, by Reason of the great Difficulty that attends its Extirpation, and like-
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wife on Account of its easy Increase, for this will grow amongst most Corn, and scatter its Seed before the Grain is ripe, nor will it yield to any one Year's Plowing of the Ground, because of its several Skins and hardy Nature. On which Account it surpasses most others, as is plain from its growing, in Plenty, on breaking up Meadow Ground that has laid under Grass some Scores of Years; for many Seeds of Weeds will withstand the Culture of the Earth, and the Severity of the Weather, much longer than the Seeds of Corn or Grasses, insomuch that by the Toughness of their Coats, and their sulphureous Nature, they have been proved to lie unhurt in the Ground, more than the Age of Man; which I think is enough to confute the common Opinion, that some Ground naturally breeds Weeds, without their Seeds being before in the same. And why wild Oats grow most in Ground that is constantly sown with Corn, I think may be accounted for, by allowing that such Seeds, if but a few at first, will increase the more by often mixing them with the Plough, and giving the Earth no Opportunity for their Ruin. The best Remedy, I know of, in the common Husbandry, is after a Summer Fallow to plow the Ground several Times for a Crop of Turneps, or to have Turneps twice together: But above all others, the Plowings or Breakings between the Drills of Corn, Turneps, or artificial Grasses will certainly and intirely destroy the Breed of wild Oats in a little Time. Before I conclude this Article, I cannot but observe the Opinion of a certain Person, who believed that those Oats eaten by Horses, and dunged whole, produce a wild Oat, by Reason of the Damage they receive from the Body of the beast: If this be true, it is not to be wondered at, that they grow in great Plenty, where such Dung is laid: In the Vale among their random sown Horse-beans,

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beans, the Sheep destroy the wild Oats that Year, by feeding among the Beans, even in Blossom-Time.

Crow or wild Garlick. This sometimes runs up as high as the Wheat, with Heads and Seeds somewhat like Onions, but not so large; it chiefly grows among Wheat and Barley, and not so much among Oats and Pease, at least it is not so much minded in them, as in the other two. It is such an abominable stinking Weed, that when the Wheat is at Market, and this Seed perceived to be mixed but in a small Degree with it, the Buyer commonly calls it the *Devil* of a Weed. One of my Days-men told me, that he and another, as they were weeding of Corn, espied some of the Crow Garlick, which so much resembled young Onions, that his Partner said he would sit down and eat his Bread and Cheese with a few of them; accordingly he cut about ten close to the Ground, but it was not long before they began to swell the Man, and forced him home, as fast as he could go, where happily his Wife gave him a Dose of Physic that she had by her, and saved her Husband. This Weed grows in many Grounds, but chiefly in the stony, clayey Soils, and is best killed by Winter Fallowings, frequent Plowings, and Turnep-Crops. The Seed of this Weed clogs the Stones of Mills, so that it is very hard to clear them of its Flour, 'till the next Summer dries it quite up.

Melilot. Is a Weed that grows among Wheat and Barley, but mostly in Pease, Oats, and Beans, and that both in Vale and *Chilturn* Lands, where it comes up much like Lucern Grass, about two Feet high with a yellow Flower, and a black Seed like Trefoil. If its Leaf or Seed is rubbed, it will stink the Hands for three or four Hours, and is so hateful to Horses, that they refuse the Oats it grows with. It is generally found in stony Clays
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and wettish Grounds ; which if cross cropped, by too often Sowings, will increase this horrid Weed very much. Its Remedy is the same as for Crow Garlick. Both this and the Garlic are such offensive Vegetables, as oblige some Farmers to weed it out, to prevent its Damage by the Cow's Milk in Cheese and Butter, as I have before observed.

Gould. This is the commonest and most pernicious Weed of all others in sandy Lands. This Summer, 1738, being a wet one, the Gould got such a Head among Barley, especially, that there seemed to be as much Weed as Corn in some Fields. Many of their Sands, sandy Loams, light brick Earths, and such Soils are hardly ever without its Roots. It is one of those Weeds that cause a Despair of destroying it, where it has got but a tolerable Possession. I have observed its Growth, in vast Quantities of Ground, where its great high Bunches with golden Heads like a Marygold shew themselves, at a great Distance. There are four Sorts of it that infest Corn Fields, as the white, red, blue, and yellow, but the last is the common Weed. To check then this fatal Destroyer, some lay down the same Ground, with artificial Grass ; others get a Crop of Turneps, as often as they well can on it ; others sow Rye instead of Barley, for this over-tops it. But, to kill it quite, the best Way is to sow the Corn in Drills, and then plow and clean the Intervals, with that and the Break. About *July 10, 1738*, I saw the blue Sort with many round hard Stalks, three Feet high, among Barley, Oats, and Thetches, in a gravelly Loam.

Horse-Gould. Is a general destructive Weed, and mostly so in Wheat : It comes up in a fine Tilth, and flourishes most by a wet Season, attended with a cold Spring, for then the Weed is apt to get the better of the Corn, as being the more hardy

Plant : It will keep Company with the Wheat till the Harveſt, and then is about half the Length of the Grain Stalks ; ſhedding a great Deal of its flat Burr-Seed in that Time, for this Weed grows ſo thick, that it is impoſſible to weed it with the Hand or Hook ; therefore ſome have attempted to eat it off with the Wheat, by their Sheep, and failed ; for when it is old, as commonly it is when the Time is for doing it, the Beaſt does not care to eat it, becauſe it is then bitteriſh ; But my next Neighbour turned his Sheep in full early, which eat up both Wheat and Weed ; the Conſequence was, that the Earth being a Loam, and a wet, cold Time happening, while it was thus feeding, the Weed recovered, and ſpoiled moſt of the Crop of Wheat. This Yellow-headed Weed grows chiefly in ſtiff Lands and Gravels, both in the Vale and Chiltun.

Wild Borrage or Cats-tail. There are two Sorts that bear this Appellation, the blue and green, but the blue is the commoneſt and worſt. This ſhews itſelf but once in three Years, and then in the Lent Crop of Peaſe or Oats, moſtly in Chalks, Gravels, or Sands, with a large Head, and down-right Root ; for it does not affect Tilth-Earths. Between *Hazlemere* and *Godalmin*, in *Surry*, I ſaw a large Field of Oats ſo over-run with this blue Weed, and the red Poppy, about the tenth of June, in a ſandy Loam, that I could hardly ſee, at a ſmall Diſtance, any other but theſe two fine coloured Weeds, which made a pretty Show to the Traveller, but a woeful one to the Farmer : In the old Huſbandry, it is beſt deſtroyed by pulling up with the Hand in wet Weather, or by the Fin on the Share, or by following the Plough with Mattocks : It is called Cats-tail in *Hertfordſhire* ; in *Surry*, wild Borrage.

Hogweed.

Hogweed. This is the worst and commonest Weed that infests our *Chilturn* Fields, because it draws away much Nourishment from the Grain, and takes up a great Deal of Room both above and below the Surface, to the great Damage of all Crops of Corn that grow among it. It roots about two Feet down, and more upwards in Stalk; its large Head is first green, then white, next yellow, and at last brown and ripe in Seed, which is a flat Sort, so much like that of the Garden Parsnip, that it is difficult to distinguish it by Sight. No Plowing nor Fallowing can destroy this, nor will it yield to sowing the Ground with Clover or other Grasses, or with Turnep Seed, and their common Houghing: Our Way is to weed it in this Month or next with the Hook, but this only checks it from feeding, and causes the Weeder to do a great deal of Harm with his Feet among the Corn. To destroy it, it should be dug up by several Men following the Plough with their Mattocks, for their Roots shew themselves very plain in the Furrow, and then their Pieces must be carried off the arable Land, lest they should grow, or be laid on the same for Sheep to feed on directly, which they will greedily do; and not only Sheep, but Horses, Cows, Hogs, and Rabbits, are great Lovers both of their Roots and Stalks, and will fatten on them, if plentifully supplied, whilst they are green.

Cammock. There are two Sorts of this stinking Weed; the one has a Honey-suckle Head, the other spires up with a Sort of grassy Leaf above a Foot high, and smells strongest: It branches and roots like a Honey-suckle, but much more, and is a great Spoiler of Corn: It grows in Patches, in Loams, Clays, Gravels, and in some Sort of white Grounds. Their Cure is chiefly by the Mattock, to dig up their Roots deep, and break the Ground well

well to come at them, carefully carrying away all their fibrous or stringy Parts off the plowed Ground: Their largest Roots are so strong, as sometimes to set six Horses.

Honey-Suckle. I mean the red Sort, which when old, like the Cammock, will try the Strength of a Team of Horses, to break their Roots; and therefore it should excite the Care of Farmers to prevent their Growth, by giving the Land frequent, deep, and clean Plowings: To this Purpose, the excellent Method of boutting stiff Lands, and boutting off the last Bouts, prevents the Breed and Increase of the Honey-suckle: And it is on this Account, that the two Horse small Farmer suffers much, because he is not strong enough to perform this Work, nor to prevent the Breed of this, and some other tenacious potent Weeds. The Honey-suckle is so much planted in some Fields, that it has tempted several to let it stand for an intire Crop of Grass to feed Cattle, or to mow for Seed, which in some swampy Grounds is serviceable; for though it is like Clover in Head and Root, yet it won't hove the Cows or Sheep as Clover; yet, if you let it lie three Years together, it is wrong, for then it will be apt to run its Roots too far into, and about the Ground, and so become a lasting Enemy: Its Cure is to chalk the Land, and to dig with the Mattock, or to give it deep and often Plowings, especially at Fallow-time in a dry Season.

The Thistle. Is said to be an Indication of good Land, but where-ever it happens to get Possession, it is no welcome Guest, for this does its Share of Damage among Corn, proportionable to its Root: It is most common in Vale rich Lands, and too often in our *Chilturn* Grounds, where in both, if it is let stand to Seed, the Winds will carry its light Flew to great Distances: This I know a great Farmer

Farmer so careful to prevent, that he makes his Men with a Mattock, or with the Iron-Thistle paddle every Year, to destroy them in the Lanes, near his Fields, lest its feathery Seed should blow into them and grow. Its Cure is often and deep plowings, chalking the Land, and sowing it with Clover; or better by a Man's following the Plough, and digging the Roots out of the Furrows. I knew a certain Man to be at eight Pounds Expence the first Year, five the next, and three the Year following, to paddle up Thistles in the same Meadow feeding Ground, and by this Means overcome them.

Ragweed. This is a tall bunchy Weed, that has many yellow Heads or Flowers, somewhat like the Gould; it chiefly infests Meadows, some whereof I have seen over-run with it in *August*, when it is in its full Perfection: This comes meerly by bad Husbandry, for it is easily pulled up by the Hand, after a great Shower of Rain, having a narrow Bunch of fibrous Roots, that grow near the Surface like a Crow's Foot.

Wild Teasels. These are tall Weeds that exhaust the Ground much, and grow mostly in neglected Grass Grounds: They grow but in few Places; but where they are, these, like the large Ant-hills, may serve as Beacons to the passing Traveller, to let them know there lives a bad Husbandman in the Neighbourhood.

Arsmart. This has a bunchy Root, which, when got old, runs deep into the Earth, and, having many Fibres, cannot then be destroyed by the Plough. I lately saw a moist, loamy, gravelly Field near *Bille-recey*, quite over-run with it; and though it did not grow very high, yet it caused a thin Crop of Grain to be carried to the Barn. Chalking the Ground, and plowing the Land clean, while it is young,

young, destroys it ; so likewise do Crops of Turneps and Cale.

Horse-Mint. This also annoys Crops of Corn that it grows among, and cannot be weeded, because of its innumerable Stalks, but may be easily killed by Chalking, clean Plowings, and by Crops of Turneps or Cale.

Wild Sorrel. This ugly Weed likewise very much damages the Grain it grows among, and for the aforesaid Reasons cannot be killed by weeding, but by sowing of Turneps or Cale, chalking the Ground, and plowing it often clean.

Colt's Foot, or dunny Leaves. This is a most pernicious Weed, and very hard to destroy, because its Roots are great Runners, and draw the Goodness out of the Ground, to the Damage of the Corn : In *March* it appears by its broad, yellow, round Flowers or Heads, which are succeeded by its broad Leaves, that grow near the Ground. Its Cure is to chalk, plow, and hough the Land, but best of all by the Break between Drills of Corn : Carry off its Roots, for its very Pieces will grow, and plow with a Fin on the Share.

Couch or Twitch-Grass. This is caused by the Sourness of the Ground, and therefore most subject to grow in low, wet, clayey Lands : It cripples the Growth of Corn to a great Degree, and very expeditiously increases its Roots. Plowings only, in such Soils, will hardly do ; and therefore they use the great heavy Harrow, which alone is sometimes full Work enough for six or eight Horses to draw, and then it admirably tears up both Root and Branch of this horrid Grass-Weed, which totally to destroy, they lay it in Heaps to burn.

Wild Thetch, Tyne, or Bind-Weed. It is an ugly Companion among Corn, especially if the Spring-time is attended with Wets and Colds, for then it is natural for this Weed to get the Predominancy, which

which sufficiently appeared in 1732, in the moist Clays and Loams, where it grew up Creeper-like from the Bottom to the Top of the Wheat Stalk, hauling and pulling down the same, till it spoiled the Ear, and thus it extended its Mischief to almost the whole Field of Wheat together. Its Remedy is deep Plowings, due Fallowings, and chalking the Ground; for according to my Observation, it comes most where these three are chiefly wanting.

Black Bennet. This is a Sort of Grass-Weed, that kills vast Quantities of Corn, or at least very much lessens their Crops. About the fourth of May, 1730, the black Bennet began to show itself Foot long among Grain that was sowed in Tilth and Lay-grounds, having before that Time a long wet Season, attended with easterly Winds, when the latter sown Wheat fared best, because when the severe Weather was over, its Youth caused it to run faster than the forward sown, and to get the better of the Bennet. This Weed does most Damage among Wheat, in Clays, and moist Loams, occasioned chiefly by four, rough Tilths, and a wet cold Spring: Its Remedy is a fine Tilth, and a dry Season to sow the Corn, in a well manured Soil, that has been soundly chalked or limed.

Crow-Needle. This is a spreading Weed, which bears a small white Flower, and grows about half the Height of the Corn: Its Seed lies in the Bottom of Points like Needles, which are about an Inch and a half long, that oftentimes very much hurt the Corn, by their being broke to Pieces, when they are thrashed with the Grain, and are difficult to get clean out: Its Remedy is sowing a pure Seed in a pure Tilth.

Cliver. This twists about the Wheat like the Vine-Weed, and does its Damage much like it: Its Seed, is a little round Burr, which requires the Labour to clear out of the Grain by the Screen.

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and the Throw ; both this, and the Crow-Needle Seed, will grow again if sown, though some say not : This is likewise best prevented by sowing clean Seed, and a good Tith.

Darnel. This is a rampant Weed, that mostly hurts Wheat ; because in Barley, its Quality is to add Strength to the Beer, by making it more heady, which causes the Malster not to find much Fault with it, if not in too great a Quantity : But as the Colour of its Flour is brown, feels rough, and has some Scent with it ; the Mealmen don't like it among Wheat : This is a most multiplying Weed, for many of its high Stalks will carry twenty Side-shoots, and every one six Corns in it, so that twenty of its Heads are enough to spoil half an Acre of Wheat : It is of so hardy a Nature, that it is usually said, the Dunghill will carry it to the Field. A Farmer that rented sixty Pound a Year, said, he lost twenty Pound by it, in one Summer's Crop ; and in the Barn, it is almost impossible to separate it from the Wheat ; because, a great Deal of it is near as big as a Wheat-Kernel, nor will it all swim on the Top of Brine or Water, as most other Seeds of Weeds will, for that the largest Seeds of this are as heavy as those of the Wheat : Its Cure, is by throwing it in a Barn, running it through the Wire-flat Screen, or better, in the new invented Round-wired Screen, that the Wheat may be sent clean to Market : Its Prevention is, by sowing clear Seed, which ought to be changed every Year, from a different Soil.

Chef-Seed Weed. This is a Sort of Darnel, but grows in a different Manner, hanging its small Stalks, which are about an Inch long from the great one, in several little Bunches.

Cockle. Is a little Seed with a black Hull, full of white Flour, for which Reason the Mealmen do not much dispute its being among Wheat, if not

in too great a Quantity ; but as little Seeds oftentimes do a great Deal of harm, clean Seed changed every Year prevents it.

May-Weed.— This is a stinking venomous Weed, which bears a white Flour, and is well known to most of our *Chilturn* Reapers, who sometimes have their Hands and Legs so blistered by it, that they are not capable of working till they get cured by the Application of House-leek Juice, mix'd with Cream, or some other Medicine : It very much cripples Grain, and grows chiefly in wet Loams, Clays and Gravels, by Means of four Tilths, and showery plowing Times, which make a dry sowing Season, and a sweet fine Tilth, its Cure.

Weeding Potatoes.— Now weed your Field-Potatoes by the Hand-hough, by this you will make them have large Roots, and keep the Ground in a Tilth for plowing once or twice, and sowing Wheat on the same in *October* following. A Foot Distance should be left between each Potatoe, and then they will have Room to encrease in Number, if the Ground was well managed, to great Profit. But of this new Improvement more in *February*.

Weeding Banks.— Our Banks which are set with quick Sets for making new Hedges, generally consist of Virgin Mould ; there is a Ditch-Bank, and a Flower-Bank without a Ditch, both which, if neglected, will soon be over-run with Weeds, and the Sets become stunted ; when it so happens, the old Way, is to use the Knife to dig up the many Roots of Grass and Weeds, which is very tedious and chargeable ; and therefore the new Method, that I use, is to take a Spade in this or last Month, and pare off the upper Crust of Grass, immediately after a Shower of Rain, and as near them between the young Shoots as possible, then turn it topsy-turvy, and lay it in the same Place, which not only kills the Weeds turn'd up, but also smoothers

the remaining Roots left behind ; and if there were any of the deep rooted Sort got into the Ground, then pulling them first up by the Hand when the Land is moist and loose, will destroy them: This Method ought annually to be practised during the Youth of the quick Sets, as being very serviceable to keep off the too powerful Heats of the Sun, and lodging the Rains ; but where the Spade cannot, the Knife must be used. In the Vale of *Aylesbury*, where Wood and Fences are scarce, they carefully observe this good Management, and spare no Pains nor Time in such a beneficial Branch of Farming ; for where-ever it is slighted, it is because they do not consider, that a good Hedge will pay its Owner, as much as if Corn grew every Year on the same Ground.

Digging and Weeding by the Mattock. This, and the following Month is the best Time in the whole Year to employ the Mattock, either after the Plough, in the Furrows in Fallow-Lands, or otherwise, for extirpating the Cammock, Honey-suckle, Hog-weed, Briars, Coltsfoot, or other Roots, for now they are firm and full of Sap, and by Consequence will bleed and run it out when wounded, which will greatly, if not quite destroy the Weeds ; but then be sure to carry off their Strings and Bits, lest they grow and become a second Increase.

Weeding Standard Trees.— Now carefully pull, pinch, or cut off the Shoots at the Bottoms or Sides of your Fruit or Timber-Trees, and neglect not doing it in this, or at farthest in next Month, for these check the Sap's Ascension, and cause both Fruit and Tree to pine, and sometimes kill the Tree out right. This Operation also being performed in Summer, very much hinders their second Growth for some Years. Moss also, after a Shower of Rain, should be scraped, or rubbed off with a Hair-Cloth : Pismire Banks likewise, which sometimes

on the Roots, or at the Bottom of the Body of the Tree, should be carefully dug up; for these are often of bad Consequence, and tend to its Ruin: Their Destruction you will have in next Month, with many other curious Matters relating to Vermin and Insects.

Weeding-Beans. In this Month be sure to keep your Sheep in Fields of Horse-beans, to break and keep back the Hell-weed, which sometimes spoils many Hundred Acres of them in a Summer, by fastening its Thread on the Bean-Pods and Stalks, and keeping them from thriving, and thus will grow and run many Poles together, without any perceptible Root, which has made many say, it has none: But this is a Mistake, as it was proved at Chedington Farm, in Bucks, where the Tenant's Son for a Trial, threw its Threads, or Seeds on a little spot of Grass-ground, and it presently came up very thick. The Sheep are certainly the best Weeders among this large stalked Corn, which is sown promiscuously, for they will clear it of all Sorts of Weeds, and yet seldom hurt the Beans; for which Reason, some will let them go into them, even in Blossom Time. In some dry hot Seasons, the Dolphin black Fly proves very destructive to both the Field and Garden-Beans, whether drilled or otherwise: But to prevent this Mischief, I shall here give you two fine Receipts.

To save Crops of Beans by destroying the Dolphin Fly. These Insects always begin to make their Lodgment on the Top of this Vegetable, and increase downwards till they kill all or most of the growing Beans; therefore, when they have first got Possession, mow off the Heads of the Beans with a Scythe, and the Fly will never rise again, for they cannot get upwards. The next Way is to do it by Turkeys: A certain Farmer's Wife used to scold at her Servants for letting the Turkies go into a Field of Beans

Beans near her House ; but instead of Mischief, they did great Service ; for they proved excellent Weeders, by pecking off the Flies for their Food, and caused more Beans to grow on four Acres, than was in forty of her Neighbour's that Summer. — Now draw your Prong or Plate-break, by one or two Horses, between the Rows of drilled Beans ; the first is too loosen the Ground, and kill the Weeds, the other to cast the Mould up to their Sides : This most serviceable Way caused such vast Crops both of the Horse and broad Beans in Fields this wet Summer, 1738, as made them grow to six or seven Feet high. As soon as ever the Blossom falls off from the Bottom of the broad Bean Stalk ; that is, as soon as the lowermost Kid appears, then cut or pinch off just the Head of the Stalk, for then as the Stalk kids upwards, this Method will stop its shooting in Length, make it corn better, and less liable to the Dolphin Fly ; but this Work is rather too tedious to be done among Horse-beans.

Weeding Pease.— Early in this Month, or as soon as the Weeds are long enough, with the Hand-hook of five Feet long, weed out the Thistle and others from among your Pease, before you begin upon any other Corn ; because otherwise they will draw and cover the Ground so as to cramp the Growth of the Pease ; for these are more tender and precarious in their thriving, than many other Sorts of Corn. If the Pease are drilled, draw your Horse-break between the Rows ; and if Occasion be, use the common Hand-hough afterwards, to lay the Mould closer to the Stalks. The very Beginning of this Month, you may sow Hotspur, or *Essex* Roothing Pease in Drills, in warm Soils, to come in September, or October.

The cheapest Way of weeding Hops, and their other Management in May.— In this Month those Vines which

which are grown two or three Feet long, and have not taken to the Poles of themselves, must be guided by the Hand to the nearest Pole, that has the fewest Vines, observing to couple the strongest Vine to the tallest Pole; the Number is three weak, or too strong ones to each Pole, that are to be twisted at an equal Distance, and according to the Course of the Sun, when they are to be bound with Broom-shoots, wither'd Rushes, or woollen Yarn, but not close, least the Pressure should Damage them; two or three Strings at proper Heights will do for one Pole, and so proceed on till the Plantation is finished; when they have closely taken to the Pole, cut off all the other weak Vine Shoots close to the Ground: The next tying must be about four Feet and a Half high, and if the Vines do not keep close to the Pole, the standing Ladder must be employed to tie them higher up once more; and though in wet Summers, the Vines sometimes out-run their Poles, yet they must be suffered, unless they hang down very much, and overload them, and then with a long Switch, you may strike off their Heads, which if done in Time, will encrease their Branching: What I here call tying, is done by twisting the Yarn, that it may give way as the Vine enlarges itself. Now carefully keep all Weeds, and the Seeds of Weeds from annoying your Hop-Ground: At a certain Place, they chiefly do it by the Back-hand-hough, and at another, they use the Prong-hand-hough with which one Man will clean Half an Acre of Ground in a Day, which before has been loosened. But there are two other late invented Machines that excellently clean the Ground of Weeds: One is called the Niget, or the one Wheel-hough-plough, which by the Help of two able Horses in Length, and two Men, one to hold, and the other to drive it, will greatly loosen the Earth, kill the Weeds, and
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let in the Air and Rain ; but its nine little Houghs or Feet cause so hard a Draught for two Horses, that they are obliged to stop at every fifteen (or twenty Feet for the Ploughman to draw it a little back, and raise it out of the Ground to begin again, and then it leaves a high Parcel of Earth in the Place, that must afterwards be spread by a Forkman ; The other is the Sheim or Prong-Plough, drawn in a high two Wheel Carriage, guided by its two Handles, and held by a Ploughman ; who, with it and two stout Horses, can plough nine Acres in four Days (if the Earth was loosened before) for this is not to be lifted as the former is, out of the Ground, unless it be at Turnings, and yet will plow well, if the Land is a little stony, which the other will not. Others, will dig the Ground to clear it of Weeds with the Prong-Spade, which also, in stiff or gravelly Earths, performs well ; and in a loamy, sandy Earth, one Man with it will loosen Half an Acre a Day, and destroy all Weeds that were growing in the same. - Take Care you do not touch the Hills with the Ploughs, least they tear the Roots of the Vines, for these are only to be managed by the Spade and the Hand-hough ; the latter to loosen the Ground, and kill the Weeds, and the former to supply the Hills with Parings of Mould, which are to be laid on at each weeding Time, after some Rain, to keep the Hills in a continual Moisture, and better nourish their Roots : Yet is this general Rule not without an Exception, for when the Vines appear vigorous, and full of Sap, give them no more of this Assistance, least it make them run too much into Stalk, and hinder their bearing Hops ; for as it is said, you may enrich the Roots, when you cannot check them. Mr. Godfrey, of Town Malding, told me, he made his Ground so rich, that for several Years he could not stop the Roots from causing too rank

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a Vine, and thereby lost great Quantities of Hops; which his Neighbours enjoyed; his Soil is a sandy Loam. The Hop-Hills are to be a little more than two Feet broad, and one and a Half high from the common Surface: In low, moist, rich Ground, the Hills should be higher and larger than those in dry, shallow, high Lands, for, the higher the Hill, the larger the Roots, Binds, and Sets. If there be only small Weeds on the Hills, and those not in Flower or Seed, then it is not worth while to weed them by the Hand; the Cover of the Parings will kill them; but if the Weeds are larger, or the Hills want Loosening, then they use an Instrument called a *Pick*.

About *Canterbury* they give eighteen Shillings an Acre a little before *Christmas*, for digging the Hop-Alleys with the common flat Spade; in the Spring they give five Shillings an Acre for cutting and pruning the Roots of the Hops, which they trim very nicely; six Shillings an Acre for digging with the Hand-Prong-Hough, and four Shillings an Acre for weeding or ploughing all the Interspaces with the Sheim. I should have given the several Cuts of these Instruments, but the Price of my Book won't defray it. In this Month, or in the two following, some sow their Hop Grounds with Turneps, to keep the Ground clear of Weeds, by houghing these Plants, and enjoying an early Crop of them; but this Way has its Disadvantages, for, as they commonly draw them, it impoverishes the Ground, and robs the Hop-Plant, unless there be a sufficient Quantity of Manure allowed afterwards: Yet is this to be done according to the Nature of the Soil, for, if these are sown upon a sandy Loam, and eaten off by Sheep in Winter, their Dung and Stale will parch and damage the Hop-Roots, that the Hops commonly suffer the next Summer, and Pigeons Dung will intirely kill them:

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them; besides which, both in this Earth, and in stiff Grounds more, the Sheep, by their Weight and cloven Feet, tread down the Ground into a close Texture of Parts, and thereby make it more chargeable to get loose and light again, therefore they account it best to draw them; however, for these Reasons, most Owners of Hop Grounds refuse to sow any Vegetable between the Rows, yet I must commend a great Improvement of this Nature, which I saw in a By-part about thirty Miles from *London*, in 1738, where the Owner had planted a Number of uncommon Roots, which every Year returned a considerable Profit, and did little or no Damage to the Hops; this I intend to write of next Month.

Weeding Dwarf Roses. This belongs chiefly to the Hop Farmer or Planter, because it is a most profitable Vegetable when it grows in Hop-Alleys, which in a certain Country was exposed to my View, I mean the red Rose used by the Apothecaries. These must have a proper Soil to grow in, and be well weeded in this Month in particular, by the Knife and Hand-hough, after the Hough-Plough or Break has been as near as it could go. These Sort of Roses grow about two or three Feet high, and two or three Feet broad like a low Hedge. Their Manner of planting, in the Middle of Hop-Alleys, I intend to shew in a proper Month, and their Gathering I shall take Notice of in *June*.

Weeding the large black and white Poppey. Now weed your Poppies by the Hand-hough, whose Seed was sown promiscuously, that they may grow the larger, and be the sooner ripe for gathering about the Beginning of *August*. In *Surrey* a Man told me he made three Pounds of as many as grew on five or six Poles of Ground, and I lately saw them flourish in an Orchard to near five or six Feet in
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Heighth ; they are commonly sold to the Apothecaries, and are a great Improvement, and I am of Opinion that they may be sown in Drills to a better Purpose. Their Culture I intend to publish in a proper Month.

Weeding Lucern. In this Month weed that Lucerne, whose Seeds were drilled in, in sandy or low marshy Grounds in *February* or *March*. I will suppose the Drills to be about twenty-four Inches asunder, and then the Horse-Break may in this Month be drawn through the Intervals, and after that the Hand-hough may be used : Or, if Lucern was sowed with an Intent to hough the Ground between the Master-Stalks, as Turneps are houghed, the common Hand-hough must be used ; but then there must be two Houghings at least employed to do the Work clean. The common Way is to sow this Seed promiscuously as we do Clover.

Weeding several Vegetables. In this Month weed Saffron, Woad, Liquorice, Coriander-plants, Carraways, Teasels, Madder, Hemp, Flax, Weld, Gooseberry, and Currant Bushes, destroy Fern and Rushes, and weed Potatoe Grounds : Several of these may be made to grow better in Drills than in Broad-lands ; but, as to Potatoes, there is a new Way of planting them to a very great Advantage, which I intend to publish in *February*.

CHAP. IV.

Of Manures and Dressings proper for this Month.

DUNG or Muck. In this Month employ what Dung you have left in your Yard, by carrying it on your Fallow-Ground, which has been once plowed in *April*; spread it well, and plow it in, the latter End of this Month in all stiff Soils: It is much better so, than to let it remain in a Clamp 'till Turnep, or Wheat Seed Time, because by then it would be much wasted by the Air, Rain, and Sun; but, if in such Earths it is mixed in due Time, it will ferment it, and make it short, sweet, and rich, for the Reception of Turnep, Cole, or Wheat Seed, and thereby be better prepared to admit their thready Roots into its innumerable Pores, and administer its fertilising Salts, to the forwarding a vigorous Growth of the Vegetable; and thus the Turnep, in particular, is pushed on so quick, as to make them out-run the Damage of the Fly, Slug, and Worm, as well as the Prejudice of hot and dry Weather, by which an early Crop will be brought on, and their Bulk greatly increased; when, at the same Time, your Neighbour, who has not made Use of this Improvement, may lose his Crop by several impending Accidents, or at best get only a Parcel of poor stunted Turneps.

But, in this Field Oeconomy, particular Regard ought to be had to the Nature of the Soil: For if it is a rashy Gravel, or a dry, hungry, unlucky Ground, that you are to sow Wheat in at *Michaelmas* or later, then you ought to forbear laying on your Dung till you are just going to plow and sow it; in this Case the Dung must be fully

fully rotted, else the Harrows will tear it out again; if the Seed is sown in Broad-lands, and if your Ground is sown in Stitches, and the Dung be long, it will be apt to bury some of the Seed, make it lie in unequal Parts, and breed a Mould, which will prove destructive to the Grain: Thus the too common Mistake, and fatal Consequence of dunging such Land, is avoided, which, by too early dressing it, would give such a hawky Soil an Opportunity of devouring the Dung, before the Growth of the Wheat is half over, and then you may expect a poor, starved Crop.

Mould and Lime. This Month being a leisure Time with some Farmers, get what Mould you can, and mix it with Dung and Lime; the latter will make the gray or rooty Mould run into small Parts, and so ferment them all, as to make them incorporate in a fine Manner, and become fit to be laid on Land, and plowed in, in the Month of July, for Turneps or Rye, or for Wheat afterwards. Or if Mud is so served, instead of Mould, it will answer to a good Purpose, and their Proportion should be three Parts Mould or Mud, and one Part Lime, or about ten Loads of Mould or Mud, to two Loads or ninety-six Bushels of Lime, to be laid length-ways, in a long, narrow Heap, broad at Bottom, and narrow at Top, somewhat like a Hog's Body, for the Rain to wash the better off it. This Composition makes a most excellent Manure for nourishing both Corn and Grasses; and therefore is very proper to be used on both Plowed and Meadow-Lands; and this advantageous Practice is now become so much in Esteem by the best of Farmers, that, in Order to come by this delicate Dressing, they often dig up their Mould, and carry it away for this Purpose, from the very Roots of their Hedge-Plants; and, to do this to the best Advantage, some will first lay a Quantity of

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of Mould or Mud all along the Bottom, then a Layer of Lime and Dung, and Mould at Top; others will lay some Mould first at Bottom, and then a long Row of Stone-Lime, and on both Sides of it, Mould and Dung mixed, which is all, some Time after, to be mixed with a Spade or Shovel, till it is incorporated into one fine Body, and then it will fertilise almost all Sorts of Land, as being an agreeable Manure, which will rather destroy than breed Weeds: But of Lime and these, more hereafter.

Vale-Men discommended in dunging their Land. As I have now writ on the Dunging, or Dressing *Cbiltun* Lands, I shall here touch on that of Vale Grounds; in which Respect I cannot help dispraising those, who after their Dung is once thrown up in their Yards, in a Clamp in the Spring Time, do no more to it than lay and spread it on their ridge Lands, the latter End of this, or in the Month of *June*, against the Wheat Season, as I have often known them do, where they let it thus lie on the Surface of the Ground, exposed to the Sun, Air, and Rain for a Month or two together, before they plow it in, till most of its Quintessence is exhausted: But, in Defence of this Practice, they alledge that, in this Time, the Rains wash its Goodness into the Earth, and they enjoy it this Way; which I think a poor Excuse, for many Times no Rain falls in that Space of Time, and then their Plea is groundless: But allowing that there should some wet Seasons happen, yet the Interims of dry Weather must consequently rob the Dung of Part of its Vertue, while it thus lies above Ground: But of late they are become a little better Husbards, by rotting their Dung against *Michaelmas*.

Dunging Meadow Ground. Now be increasing your Dunghills, in Order to get them rotted and
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fine against the Time you get your Field clear'd of the first and second Crops of Grass: Some lay it on after the first, to increase the second; others not till *October*, when it is fed bare. This Sort of Dunghill requires to be turned often, mixed well, and rotted to the highest Perfection of Fineness; for, the smaller its Parts are, the better and sooner it mixes with the small Roots of the Grass, and thereby brings on an early Cover, and that an early Mowing, once if not twice in a Summer, and then great Burthens; as is annually proved by the *Edgware* and *Hendon* Men in particular, who certainly are the most curious Managers of a Dunghill in this Nation, and yet are at a considerable Charge all the Summer, to bring their *London* Lay-stall, Muck and Dung, and Coal-Ashes, three, seven, and ten Miles on the Wheels, which they most carefully mix with Highway Dirt, Mould, and sometimes Chalk, and incorporate them so, often, till they attain a most exquisite Fineness, against their spreading Seasons.

To alter red or other Clays, and reduce them to a Loam. ON the Clay-Land, that was last Month fallowed in Broad-lands, lay in Heaps, on one Acre, the Quantity of sixty or a hundred Bushels of Coal Ashes; the more the better, and spread them with a Shovel or Spade in a dewy Morning, to prevent their Flying too far; then plow them in as shallow as possible into Broad-lands again a-cross the last Way, or into four thoroughd Stitches, or by hacking the Ground. If the Ashes are plowed into Broad-lands shallow the first Time, you must go deeper with the Plough the second Time; and thus you will be in less Danger of burying them, by which the Clay and Ashes will the better mix, and be exposed to the Sun, Air, and Rain, for its Melioration; at *Michaelmas*, the same may be sown with Wheat in Stitches, as the

the best Way to cause a further Incorporation of these two contrary Bodies, and bring them into one: And, to add to this great Improvement, in *January* following, sow forty Bushels of flaked Lime over the same Acre, or twenty-five Bushels of *London* Soot; either of which will still forward the Reduction of the Clay's Body, shorten and overcome it better than Sand, which is of sharp Parts, and therefore the easier devoured by such a tough, tenacious Earth: And though Coal-Ashes are likewise endowed with sharp Particles, which are binding and drying, they are yet of a very shortening Nature, insomuch that, after they have been mixed by repeated Turnings of the Plough, and two or three Crops have been obtained, they will so divide and adhere to the moist, viscous Body of the Clay, as to reduce it to an intire loamy Earth; and the more so, if such dry Manures of short, rotten Horse-dung, Wood or Coal-Ashes, Lime and Lime-Ashes, Malt-Dust, Oil-Cake-Powder, and the like be often used in this Work. These, as well as the Scratchings of the Harrow-Tines, the Movements of the Plough, and the Intanglements of the fibrous Roots of the Corn, do all contribute to cement the Clay and Ashes together, so that, by these Revolutions, a barren Clay may be made a fruitful Loam, at a small Charge, and in a little Time. The Proof of this is obvious, from the great Quantities of Clay and Ashes that are mixed together in the adjacent Parts of *London*, which, after some Time lying, becomes a loamy Body, and of a Hasle Colour, for making Bricks and Tiles.

Alterations of Manures and Dressings. This is absolutely necessary in both Meadow and Arable Grounds; for in the first it has been proved, that, by sowing Ashes some Years together, they have lain at the Roots, violently drawn the Goodness

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out of the Ground, and in Time so choaked the Plants, that they produced but very thin Crops of Hay. So Horse-dung, for the same Reason, may be annually applied, till the Ground will bear no Grass. Arable Land will also complain, if too frequently dressed with one Sort of Manure: As for Example, if Soot, or Lime, is used each on two or three Crops together, the Consequence will be thin Returns of Grain; a judicious Farmer therefore always takes Care to change his Dressing as often as he can; hence it is, that many are so curious to mix Earth, Lime, and Dung together, as best agreeing in the Dunghill, and on the Ground afterwards. Again, the Nature of Manures is to be considered for their alternate Application: Soot, Lime, and Ashes generally produce a short, thick Grass, Dung, or Fold, long Grass; for which Reasons, Dung, or Fold, should follow Soot, Ashes, or Lime, and so on; likewise where Grass, on Downs or other dry Bottoms, is naturally short, Cart-dung or the Fold should be made Use of, before the burning Sort. A Gentleman that keeps twelve hundred Sheep lays so great a Stress on this Piece of Husbandry, that he hopes by this Means to have Sheep worth sixteen or eighteen Shilling a Head, instead of a smaller Sort of eight or ten Shillings Value, which he used to have; and that by employing his Fold on such short Grass, and feeding his Sheep in the Winter with Pea or other Straw out of Racks; for either Hay or Straw, consumed in this Manner, warms the Roots of Grass, keeps off Chills, prevents the Growth of Mofs, and, by the Worms drawing it into the Ground, becomes a Sort of under Dressing, besides the Improvement of the Dung, Stale, and Heat of the Sheep's woolly Bodies.

Marles. I am informed that in *Cheshire*, in this Month, or in *June* or *July*, they dig Marle to

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dress their Ground withal, which, being open Field-Land, lies in *Buts* of Grass (according to their Term) which perhaps has continued so, ten, twenty, or thirty Years: These they plow up for Corn, and dress with Marle; of which there are four several Sorts, *viz.* The Fustian, the Cowshit, the Black-steel, and the Shale: The Fustian Sort is an Earth composed of a fat Loam and Sand, of a reddish Colour, so soft and loose, that they spit it with a Spade, and lasts but four or five Years, though relieved with other Dressings in that Time: The Cowshit, which is the richest Sort, looks to be an Earth mingled with Lime, having many little white Specks in it, and will last seven Years with Assistance; this is all spitted or thrown out with the Spade: The Black-steel Marle is of so hard a Nature, that they dig it with Mattock and Spade, and will not all dissolve in seven Years, nor will all its Goodness be spent in twelve: The Shale-Marle is of all Colours, and of a stony Nature, which obliges them to peck and hew it, and then it comes like Bits of Stone; yet this will last but four or five Years, though helped with other Dressings: Of these they sometimes lay above five hundred Heaps on one Acre, and, after it is spread, they let it lie dissolving the remaining Part of the Summer, and the whole Winter, till they give it one Plowing, between *Christmas* and *Candlemas*, and afterwards harrow in Oats; the next Time they muck well, plow, and sow Barley; then for the next Crop they give the same Ground a Fallow, and dress with Lime and Dung, and sow Wheat, and Beans after that: Thus, when they have got about seven Crops, they lay it down for natural Grass, which of itself will be a Crop the very next Year; though some more prudently, of late, lay it down with artificial Grasses. In their inclosed Meadows, they

they do not use any Marle, because they find it to have such a binding Nature, as to hinder the Growth of Grass; for which Reason they dress with Dung only; nor will some Marles answer in arable Land, where the Soil is not agreeable. I heard of a certain Farmer, who was ruined by dressing a clayey Ground with a stiff reddish Marle, which, in a dry, hot Summer, burnt and dried up his Grain, and, in a cold, wet one, chilled and crippled his Crops; and this he suffered the more, because he was poor and could not purchase alternate Dressings. In *Hampshire, Surrey, Kent, Essex, Suffolk, and Norfolk*, Marle is their chiefest Manure, and does a great Deal of Service, especially in their Gravels and Sands. About *Woodbridge* they make Use of a shelly Marle, which they there call *Cragg*, which about thirty Years ago was found out by mending a Cart-way with it, where, afterwards happening to sow Grain in the same Place, it proved a better Crop than ordinary, and ever since they dig it for a Manure: It is a reddish, shelly Earth, which, being laid on to the Quantity of twenty-five Cart-Loads on one Acre, dresses it for seven or twelve Years; so that, at this Time, they have dug Pits of it in many Places, and carry it to great Distances, where it returns them prodigious Burthens of Grain in their hungry, sandy Grounds. In this Earth, Cockle and other Shells are commonly found mixed, which has caused some to imagine, that this Ground was formerly gained from the Sea; and the rather, because the Salt-Water is at this Time not far from it; as it is said of the most fertile *Romney-Marsh*, whose Bottom seemed to me to be of a shelly Earth, which has been gained from the Sea not many Years since, and produces such Grass, which exceeds all others in *Kent*, for fattening Cattle in a little Time without rotting them.

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Soot. In the Year 1735, the Weather was dry almost throughout *May*, and Part of *April*, which set the Barley which was sown late in Gravels, Chalks, and Sands, to that Degree, that several Fields looked bald the latter End of this Month, especially where they dressed the Corn that grew on such Soils with Soot, which helped the more to dry away their Grain; whereas, had they soaked their Barley-Seed according to my Receipt, and then footed it betimes, this fatal Misfortune had been prevented; however, one of my Neighbours was so wise as to foot his Wheat in *January*, and tho' it was in a chalky Land, yet by the Help of the early Rains it was a most flourishing Crop. But neither Barley nor Wheat should be footed after the twenty-fifth Day of *April*, unless the Barley was very latter sown indeed; because the Wheat, and commonly the Barley, have then done gathering and branching, and got upon the Spindle. As soon as *French Wheat* or *Weld* is sown in this Month, Soot may be either sown over the same Ground, or better harrowed in with the Grain. It is likewise proper to be sown over young Turneps that have all just appeared. Or, in Case you have been necessitated to sow Barley the Beginning of this Month, Soot may be used to its Improvement, in the Manner it is done with the *French Wheat* or *Weld*.

Ashes. If Barley is sown so late as the Beginning of *May*, lean Peat-Ashes in particular may be applied over it, or harrowed in with the Grain; but Ashes burnt from fat black Peat, such as they dig by *Newbury*, are of such a sulphureous Nature, that they are afraid to lay them on their Barley; and they do not dress their Wheat with them till the Spring is advanced, and then they are sowed over it. The Account of this rich Manure take as follows, *viz.* The Earth is taken out of a black moorish

moorish Ground, by a wooden, narrow Scoop, which brings it out like a long narrow Brick; this they lay on the Ground to dry in the Summer Time, and then sell it for eight Shillings a Waggon Load as provisional Fuel for Families: But when it is to be used for a Manure, after it is dried, they burn it in Heaps of ten, twenty, or thirty Loads, laying on more Peat on the Outsides, as the Fire increases within, to keep it from having too much Vent; however, in Time there will appear a considerable Smoke; and it was on the twenty-third of this Month, 1737, that I saw about ten great Heaps, burning for this Purpose, near where it was dug. The great Use of these Ashes was found out about thirty Years ago; but in a little Time after were brought into Disreputation, by their imprudently laying on too many at a Time, which burnt up the Corn. Afterwards they found that six or ten Bushels were sufficient to be sown over an Acre of Wheat, Pease, Turneps, Clover, Rape-Seed, or *St. Foyne*, as early as they conveniently could. But, as I said before, they are afraid to sow it over Barley, lest a dry Time should ensue and burn it up; for these Ashes are reckoned to contain three Times as much Sulphur in them as in the Coal-Ashes; and this they reasonably imagine from their great brimstony Smell, sparkling and jumping, when they are stirred as they are burning, and drying up the Corn by their too great Heat. These Peat-Ashes, and likewise those from Wood or Coal, will help to keep off the Slug from Pease and other Grains, by the Salt and Sulphur contained in them, and very much conduce to their Preservation in cold wet Seasons. But there is no such Danger to be feared from the Ashes of that Peat, which grows as a Turf over Sandy Bottoms, as great Quantities do on *Leigh-*

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ton Heath in Bedfordshire, for these are as much too lean, as the other are too rank.

Penning Sheep, or Dressing by the Fold. Now Folding is in Perfection, by Reason of the Common and Fields being firm of Grass, and which is apt to cause Distempers in Sheep, by being too full of Blood, occasioned by their greedy Feeding after a long penurious Winter; and this has made me often wonder at the ill Management of most Farmers, who seldom ever use any Medicine to prevent such Plethory or Overfulness of Blood, and the red Water, which Sheep are very subject to at this Time; though both may be easily prevented, if now and then, at Spring and Fall, they give them a few Doses of my Barrel Liquor, which I have prescribed in last Month; and is a Thing perfectly necessary for the Relief of this most useful Creature, who in Course is amassing foul Humours by the Dirt, Wet, and Cold of the severe Seasons, which impregnates the Grass with flashy, raw, earthy Qualities: Therefore also be sure to fold them late at Night, and unfold them late in the Morning, first stirring and driving them about the Pen briskly; for, by this, the Sun will have Time to exhale the destructive Vapours of the Earth, which in this Month, as they are plentifully converted into Dews, are apt to breed Cobwebs and Insects of a poisonous Nature, which often prove the Bane of Sheep: For which Reason carefully drive them first over the Place they are that Morning to feed on, in order to trample on and destroy those Cobwebs and Insects, and likewise to breathe the Sheep, and thus cause them to evacuate their ill Humours through the Pores of their spongy Skins, which will be a great Means to prevent the red Water. This Dressing by the Fold is, undoubtedly, the best and most universal of all others; because it agrees both with Vale and *Chiltern* Lands,

Lands, and may be had when others can't; but it is to be observed that it does more good on some Sort of Ground, than on others: Loams, Gravels, Chalks, Sands, and other light, dry Earths, receive the greatest Benefit from their unctuous Dung, Urine, warm Bodies and Treads; but, on flat, wet Loams, and cold Clays, it does not answer quite so well. Folding is excellent on Ground preparatory for Sowing Wheat, Barley, Turneps, &c. and also after Sowing, not only by their treading in the Seed for its better Nourishment, and keeping the Stalks afterwards from falling down, but likewise to preserve it from the devouring Birds, Slugs, and Worms. But, in this Management, due Care ought to be taken to keep the Sheep off that which has been folded on, lest the new sprouting Blade be bitten off: This is so material a Point, that some object against this beneficial Proceeding, on this very Account; but, where a good Shepherd and a well broke Dog have the Superintendency of this Affair, there is the less Danger of such Damage. The Fold has been found to be so profitable as to tempt some to fold their Hogs, whose Dung, Urine, and Feet are very agreeable both to fallow Ground, and on new-sown Corn, if done in dry Times, and the Beasts are well ringed at their Nose: For this Purpose their Hurdles must be all close and strong made, that they may confine this strong, roving Creature, which has been found so difficult a Matter to do, as to discourage some from carrying on this serviceable Way; however, in Gravels and such hard Grounds where they cannot much stolch, it may very well be worth while to be at the Charge of iron Socket-Stakes, which may be drove so deep into the Earth, as to defy their Strength, and Cunning to get out.

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The Manure of natural Earth. This certainly is the most genial Dressing of all others, to all Sorts of Roots whatever: It not only procures the largest and sweetest Kitchen Plants, but also brings forward very safely the greatest Crops of Corn and artificial Grasses, as well as the most healthy and expeditious Growth of Trees. Nothing fertilises any Plant better than Virgin Mould, whose Nature all Earths have their Share, though they have had the Benefits of due Fallows, by the Plough, or were made fine by the Hough and Break, and then it most effectually supplies Dung, as appears partly in the old, but more especially and fully in the new Husbandry; and to enjoy it in this Condition, as soon as possible, it has racked the Wits of many, to find out the cheapest Methods. In the old Husbandry, the quickest Way in the Fallowing Seasons, in *Chilturn*, loamy Soils, is to plow the last Stubble into Broad-lands, in *April* or *May* at furthest; the next Time, to bout across the third Time to bout off the last Bouts, and then thorough down, harrow plain, and plow and sow Wheat; this Operation so pulverises the Ground, as to create in it an infinite Number of new Pores, at each successive Plowing, that are by this Means made smaller and smaller; and the lesser these imperceptible Holes are, the more soft and spongy is the Earth's Body, and, by this, the better fitted for the larger Reception of the nutritious Dews; therefore, the oftener, deeper, and longer, such loamy and clayey Soils are plowed, the greater Quantity of nitrous Dew it receives and lodges: Hence it is, that I know a certain Farmer, who rents about a hundred Acres of good inclosed Land in *Hertfordshire*, and dungs but once in six Years, yet has commonly the best Crops of Wheat in the Parish; by Reason he every Summer takes this Method to get his Land into an expeditious

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ditions, exquisite, fine Tilth, which, indeed, is much better Husbandry than to dung a coarse Land oftener, which at Sowing-time lies in a rough Tilth. But, as I have before observed, there is an Exception belongs to this Management: For tho' un lucky Chalks, hungry Sands, rashy Gravels, and lean light Loams are, by frequent Tossings and Tumblings about by the Plough, brought into a closer Body, as Clays and stiff Lands are brought into a lighter, and thereby both the better fitted for receiving and lodging the silky, capillary Roots of Seeds; yet such light Soils will not bear so many repeated Plowings as the stiffer Sorts; because the better Part of these generally consists in a thin Surface, whose mouldy Particles may be too much washed downwards by long and frequent Rains into their hollow, hungry Bottoms, to the great Impoverishment of such Lands: It is on this Account, therefore, that we endeavour to plow these as little as we can, so we do but get them into a fine Tilth; and, for a further Advantage, we take Care to sow the Chalks and Sands in moist Seasons, for their closer Inveloping the Seed, which thus very much secures these loose Earths from the Power of Frosts, Winds, and Wash of Rains, and also for more effectually preventing the easy Growth of Poppy, and other Weeds, and to save the Wheat, Oats, or Barley from falling down. Of this some Farmers are so careful, that, as soon as Wheat is sown in Chalks in four-thoroughed Ridges, they draw a Roll once length-ways over their Tops, to fasten the Ground. However, both light and stiff Soils must be made fine, else the Roots will have the greater Difficulty to penetrate, and be obliged to draw their Nourishment at the further Distance, to their considerable Damage.

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But by houghing Plants, Corn, Grasses, young Hedges, or young Trees, with the Three-wheel, or Pulley-Ploughs, or with Breaks or Houghs, their Roots are kept moist in a constant, fine, loose Mould; for, by this Sort of Management, Roots require less Water than those that grow from Seed sown broad-cast, because such Houghings capacitate the hollow Earth to receive the Dews in a plentiful Manner, and mostly so in the hottest, driest Seasons, whereby the sulphureous and saline Qualities, contained in Dews, nourish the finer Roots to a great Degree: Hence it is, that, the harder the Ground, the less it receives of this noble Sustenance; which is so rich, that no Dung can equalise it, when due Quantities are obtained and rightly applied to Roots of Plants by the Horse-Instruments; which are far more serviceable in these Respects than any of the Hand-Tools, because those can never go so deep, nor turn up the Mould in such a profitable Manner, as the others. Nevertheless, the Hand-hough must not be excluded its Service in these Works; for when the Plough or Break cannot come near enough to the Corn, Grass, young Hedges, and Trees, or when that Part of the Mould is clotty next to them, then the Hand-hough is to be used, to lay the Earth fine and close, and in a right Position, for the due Nourishment of their Stalks and Roots.

Lime. You that have not been so good Hus- bands as to mix your Dung, Mould, and Lime together before now, do it the Beginning of this Month against Wheat-Season (for at this Time it is rather too late to do it for Turneps) by this you will bring all the Compost into a Fermentation, which, by the Help of the Dung and Lime, will burn up all the Seeds of Weeds, and the small Roots that may be contained in the Mould; all twitch or couch Grass and all four Juices are by this destroyed.

destroyed, and the Whole made to run into a fine Body. If you are to mix Lime with only Pond, River, or Ditch Mud, then put one Load, or five or six Quarters of Lime, to ten large Loads of Mud; observe also, that this must be once turned at least before you lay it on for Wheat, that all may be duly incorporated and made fine. There are some Farmers who use Lime in a Dunghill, thus: First they lay a Bottom of Horse, Cow, Ass, or Hog Dung, of two Feet thick, upon which they spread a Covering of Earth two Feet thick likewise; on this they lay what Lime they think fit, then dung their Earth, and then Lime as before, and so on, till they have their Quantity, and at last cover with Turf or Mould, to keep the Sun from drying it too much, letting such a Heap lie rather broad, than high, that they may the better ferment together; and this they never fail to turn once, at least. Lime is so great a Shortener of Mould, that, if it is thrown but thinly on Plowed Land, in Ridges especially, in *September*, *October*, or other Winter Months, it will wash into, and fine it, with the Help of Frosts. Lime alone is used for *French* Wheat, as well as common Wheat, and is also excellent for Meadow-Ground, Turneps, Pease, &c. as being a cool, sweet, rich Dressing, and helps the Corn to kern, hollows the Ground, sweetens the Bite of Grass, and in many Places is made to supply Dungs and other Dressings; but more of this in proper Months.

Chalking Land. This excellent Earth deserves a Character above many others, for its being a pure Virgin Earth, of a sweet Nature, and of drying short Parts: Its Services are too many to be enumerated here, and therefore I intend, in a proper Month, to publish the Methods used by us in getting it out of the Ground, and the Application of it afterwards.

C H A P. V.

Of Artificial Grasses, for the Month of May,

CLOVER. Whether this is properly a Grass, or Grain, as some have observed, it matters not to the Farmer, who has more Business with experimental Knowledge, than the speculative Part of Botany; therefore we shall not here go beyond our Last, and quarrel with what is out of our Sphere; but let it suffice that, of a foreign Grass, it is now become a most useful, natural one, in *Great-Britain* and *Ireland*, where it has been of prodigious Service these many Years past, in supplying those Farmers with Grass, who having before no Meadow-Land, and could not so much as milk one Cow for their Families, may now carry on a Dairy both of Butter and Cheese, &c. by Means of this and other artificial Grasses, which grow in Plowed-grounds. And as the Profit of a plentiful Crop depends in a great Measure on the Goodness of the Seed, I shall here give you some useful Hints, which may help you in making a right Choice of the true Sort.

How to know good from bad Clover-Seed. The purple Sort of this is that which had its due Maturation in the Field, and an Escape from the Heat and Burning of a damp Mow; and is therefore the right true Seed, which ought always to be coveted, and sown by those who hope for successful Returns from sowing it: This is, truly, that Part which is best of all the three Sorts, and is the Medium of the two Extreams. The white or green Sort is the unripe Part, and missed of that Benefit in the Field, which the Purple had; for in the Ear or Head of this Grass, as well as in Wheat and other Grains, this Seed has its several

several Aspects and Proportions of Bigness, before it is cut down, and will shew their Differences accordingly after Thrashing and Cleaning : Where then this white or green Sort is in a large Quantity, it is to be rejected ; for, though such Seed may take Root and grow, it will prove diminutive Grass, and be sooner overcome by the Frosts and Wets, or Droughts, Worms, &c. than the fine purple Sort. The reddish Sort is the worst of all ; though this might be as good as the best, when it was brought out of the Field, but was afterwards too much heated or burned in the Mow, which occasions its reddish Colour, and destroys in a great Measure the vegetative Part of the Seed. From whence I conclude, that, where Clover Seed abounds most with the large purple Sort, it is then so much the more valuable : But, for a further Proof of the Goodness of this Seed, heat a Shovel half red-hot, and put some Seed into it, the good will snap, and the bad will burn away. Kiln-dried Clover-Seed may be discovered by its igneous Smell.

The Manner of its first Growth. It commonly comes up in a Week's Time, if the Weather is favourable, and then it appears with two Leaves and its Seed on its Head ; these all rot away in about three Weeks Time, and then the Spear, which shot from the Middle between the two first Leaves, opens itself into three new Leaves, which stand all good. Old Seed is longer taking Root, and its Leaves bitterer than those from new Seed.

To sow Clover-Seed with Success. If it is sown on rough clotty Ground, never harrow it in with Iron-Tines, because this Seed, being very small, will easily be buried in such an uneven Surface, and never come to Perfection, at least great Part of it will in Course be lost : The best Way therefore in such a Case is to draw white or black Thorn-Bushes

Bushes pretty thick through the Sloats of a Gate or Hurdle, and, if there be Occasion, let the same be loaded with a heavy Piece of Wood; then let a Horse draw it length-ways, and across several Times over such Ground, as soon as the Seed is sown. But, if your Land is in a fine Tilth, then you may be free with your Harrow-Tines, and harrow it in once in a Place, for in such loose Earth there is no great Danger of burying the Seed too deep; yet there is a fatal Accident sometimes attends even this Management; and that is, when heavy Rains presently succeed the Sowing of Clover in such fine Mould, the Surface is apt to become what we call *Capped*, or, to be more plain, made to run and wash one Part over the other, and so cake and bind the same, that the Clover Sprout can't make its Way through its crusty Top. In this Case also, the Bush-Gate or Hurdle is perfectly necessary to be drawn over such Ground, in order to loosen it, and make Way for the seedling Heads to get an easy Passage into the Air. But observe, that this Work must be done before the Leaves appear, else it may prove of very ill Consequence: Observe likewise, that, if such heavy Rains come later than five Days, the Ground will not cap or bind.

A second safe Way to sow Clover to a great Improvement. Before or about *Christmas* at farthest, lay your rotten Dung on your Wheat or Barley Stubbles in the *Chilturn* Fields, and give them a clean Plowing, either in Broad-lands, or four-thoroughed Stitches, which will thus envelope the Dressing, and by the Help of the Winter Weather, help to rot and mix it with the Earth against Sowing-Time; then, about the middle of *February*, plow it again, and, after it has lain a Month, first harrow it plain, then plow it across, and harrow in your Oats and Clover-Seed. But observe, that I sup-

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pose the Soil, to be thus managed is a stiff Ground, either Clay or Loam, otherwise there is no Occasion for three Times plowing it, to get it into a sweet Tilth; for a Gravel, Chalk, or Sand, must not have above two Plowings at most, because these will often do better with one Plowing, than a stiff Earth with two: However, this ought to be received as a general Rule, That all Ground must be made first very fine and sweet, if you expect Success in sowing any Manner of Grass-Seeds. And here it may be asked, Why Oats should be preferable to any other Grain for this Purpose? In Answer to which, the Reasons I think are obvious, as they are a hardy Grain, afford a good Shade, and better able to withstand the Suction of the Clover-Roots; and if the Oats, in a wet Summer, should chance to suffer by them, the Loss will not be so great as in Wheat, or Barley; and, for this Purpose, I chuse the black Oat before the large, white, *Poland* Sort, by Reason the latter is such a vast Peeler or Robber of the Ground, that, when the Crop is got off, the Land is left impoverished, and the Clover sometimes so crippled and stunted, as to yield no more than half a Burthen. It is on this Account that I am for having such Ground well dunged before-hand, not only to hollow it for the better Reception of the Seed, but to nourish the Clover the Year following, as well as to make it produce a very good Crop of Oats: With such Assistance, the Clover will enjoy several Benefits; as getting an early Head in the Spring-Time to shade its Roots against a dry Summer; and, if the second Crop is saved for Seed, it will be larger-bodied, and sooner fit to mow. I am very sensible that the white Oat is chiefly recommended by the learned Mr. *Worlidge*, for this Purpose, as giving a greater Shelter, by its broad Leaves, to the Clover than other Oats; but if you sow (as you ought

ought to do in all stiff Soils) four Bushels of black Oats on one Acre with the Clover Seed, you need fear no Misfortune from that Quarter: I have experienced both Ways, and therefore think I have a Right to know the Difference beyond this Author, who I never understood was a Farmer, or concerned further in the Occupation of Land, than that of a Garden; yet, to do him Justice, I must own, his Essays on Vegetation, &c. have been very serviceable to the World. At this Time, I am feeding my Horses in a Field of Clover, which I obtained after the following Manner.

A third Way. It was on a stiff Soil, that I had a Crop of Wheat grew, and in *November* I plowed up its Stubble, letting it lie till the latter End of *February*, when I plowed the same Ground again, and sowed it with about two Thirds Horse-beans, and one Horn-grey Pease, and twelve Pounds of Clover on an Acre, and it proved a good Crop. Here I observed that Clover does more good than Harm to this Grain, as it helps to shade its Roots against Droughts, and thereby furthers its Growth; nor can the Roots of the Clover damage those of the Pease or Beans, by drawing out the Goodness of the Earth from them, because the latter, being much larger, have certainly the greater Suction from the Earth; yet both contribute to nourish each other, the Beans and Pease by shading the Clover, and the Clover them, and thereby making a Lodgment of the Dews, and retaining them afterwards, to their great Improvement.

A fourth Way. About *Watford*, where they pay twenty Shillings *per* Acre a Year for their Plowed Land, they have such a Regard to the Improvement of this noble Grass, that, after the Barley is carried off, which the Clover was sowed amongst, they get large Quantities of *London Coal-Ashes*,

Ashes, and lay them in a few large Heaps in several Parts of a great Field in *September*; then in *October* they turn in those Sheep, which a little before were put into their Stubble-fields to fatten, and by this Opportunity they continue feeding them 'till their Turneps are ready, which compleats them for the Butcher; then, about *Christmas*, they sow their Ashes on the Clover, which gives it those Benefits I have before-mentioned.

The pernicious Effects of sowing Clover too early amongst Wheat. This Seed for many Years has been customarily sown amongst Wheat about *Christmas*, or in some of the following Months till *April*, by sowing it broad-cast, and doing nothing else to it: Some again will draw a Bushed-hurdle over it, instead of the Harrows: Others will roll it in: However, all these Ways are to answer one Purpose: But what I have here to alledge against this early Sowing of it is, that it often spoils or hurts the Wheat-Crop, by the great Suction it makes in Tilths and well dressed Grounds, in which this capital Grain is commonly sown; especially if a wet Summer succeeds, for then it radiates itself with great Expedition, and grows more than ordinary luxuriant.

A certain great Farmer near me, who was praising the fine Appearance his Crop of Wheat made in *April*, to an old judicious Neighbour, was told by the latter, shaking his Head, that he believed he would be of another Mind before Harvest: The other asked him Why? Because, *says he*, the Clover you have just sown amongst it, in the Winter, will very likely cripple it by that Time, and disappoint your Hopes: And accordingly it fell out so to his great Disadvantage: And this will appear no Wonder, if a Person does but reflect a little, and consult his own Reason upon the Matter, for it is plain to the Farmer, that the Roots of the Wheat, composed of small Fibres, as it

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were in a Bunch, get their Living very near the Surface of the Earth, which the Clover must also do in its first Summer's Growth; and though its Seed is about one twentieth Part smaller than a Grain of Wheat, yet its Root is twenty Times bigger the second Year, than that of Wheat, which in my humble Opinion plainly accounts for the Damage. As therefore I have cautioned my Reader, in last Month, against the Mischief Clover does, if sown too soon among Barley, I here likewise do the same in Relation to Wheat: To prevent which, if you have not sown it in *March* or *April*, the very Beginning of this Month, sow fourteen Pounds of Clover-Seed on one Acre; and thus you are not in so much Danger of suffering by Frosts as before, nor, it is to be hoped, by great Rains, which are apt to kill the Clover as it is chipping and making its Way out of the Hull or Shell. The Winds and Sun are also now less capable of hurting it, by the high Growth the Wheat is at in this Month, which thereby keeps the Ground moist, and hollows it ready for the Reception of this small Seed. It likewise intitles the Farmer to this Benefit, that whereas, there being now not three Months to Harvest, the Clover has not Time to be any Ways destructive to the Wheat. These are experienced Cases, which were never before published: On the Contrary, a certain late Writer, on Husbandry, peremptorily affirms several Matters concerning this very useful Vegetable, which are intirely erroneous; I shall here mention but two, and they are as follow:

A printed Error relating to Clover. The aforesaid Author affirms, that a Field of Clover will hold good five or six Years: Now, how wrong this is every Farmer must be sensible of, who has had but small Experience in this Matter. I think I may presume to say, I am allowed by my Neighbours

to have as good Fortune in Crops of this Grass, as any about me, having at this Time five Fields under Growth of it; and yet I could never find that Clover ever paid above two Years, whether mowed or fed.

A second Error. He likewise asserts, that, after Clover has been done with, the Ground will bear Crops of Wheat for two or three Years together, and after that a Crop of Oats, without any Manure. This is fine Ground indeed, such as I never met with in all my Travels; and yet I have several good loamy Fields, that would let for twenty Shillings an Acre a Year, for the Plough; but could never find that it would produce me a plentiful Crop of Wheat or Barley, even the first Year, without the Assistance of the Fold, Dung, Soot, or some other Manure. However, there must be Allowance given for writing on Agriculture in a London Chamber; because all the Philosophy, that it can furnish, will never come up to the Information of Field Experiments.

The new Method of making Clover Hay. The latter End of this Month, or the Beginning of June, Clover is fit for Mowing, and known by its being full knotted and red-headed; and it is then you should begin this Work, for there is a Crisis of Time to be observed in this, as well as for natural Grasses. If you mow it too soon, it will shrink and lose in Quantity; and, if it stands too long, you will be deprived of its best Quality, the Sap; and then consequently it will be very coarse, and want much of its due Value. My Way of making it is thus: After it has lain a Day or two in the Swarths as it was mown, the next Time I remove its first Situation, by turning the Swarths, and letting it lie so another Day; then I put it in Grass Cocks in Rows, that the Ground between them may be regularly raked; then I afterwards

turn them with the Fork topsy-turvy twice a Day, till the Hay is intirely made. By this Method you will have it in its due Perfection of Colour and Sweetness with the Leaves on; but you must not expect this latter Benefit, if you make this Hay after the common Way of throwing and spreading it several Times, as is done in making the natural Sort; because then it would be deprived of its leafy and second best principal Part. In the next Place, when you inn it, and it should happen to be wet Weather, or that you mistrust a Dampness in it, put a Tub, Basket, or hollow Square made of four narrow Boards four or six Feet long nailed together, and placed in the Middle of the Cock, or Stack of Hay abroad, or in the Mow in the Barn, pulling it up higher as the Cock, Stack, or Mow fills in; and thus you will not only prevent its Firing, but keep it sweet; and indeed it is a good Way to use this Method always, let the Hay be ever so dry, because it gives an Evacuation to all Moisture, and tends very much to the Preservation of its green Colour. If you intend the second Crop for Seed, do not feed it after the first Mowing.

The Nature of Trefoil, and making it into Hay. This yellow-flowered Grass, if the Spring is not very backward, we commonly mow in this Month, or the Beginning of next, either when it grows alone, or with Clover and Ray-grass: If in the latter Way and it is fed, it prevents the Clover from hoving the Cattle: If for Hay, it tends very much to the Improvement of the other two, for this will twist and wind about the Clover, and help to keep its Leaves on, when it is made into Hay; so likewise is the Clover no less serviceable in its Place, for, if you thrash the Trefoil and Ray-grass with the Clover for Seed in the Field or Barn, the first two will presently yield their Seed,

Seed, when the latter will retain it, and thereby, with its brown Honey-suckle Head, so improve their Stalks, as to make them the better Hay or Clover. Observe also that whether you mow Trefoil for Seed or Hay, it is best made in Grass Cocks, as I have before directed for Clover; because its Seed (which it most easily parts with) is better preserved; and it is for this Reason Trefoil should never be fully ripe, when it is mown; and, when it is mowed alone, this Grass does not require so much Making as other Grasses. It is a very fattening Hay for all Sorts of Cattle, and so is its Grass; and in particular very serviceable to Cows and Ewes in producing a great Deal of sweet, yellowish Milk and Butter; for which good Qualities it is by some called *None such*: But after *Midsummer*, or the first Crop is off, it grows very slow, and makes but a small Return, and is apt, when grown old, to make the Butter bitterish. This Trefoil has likewise a singular Quality different from all others, for, if you mow it, and plow the same Ground several Times, and sow it with Corn, it very rarely happens, that you miss of having a thicker Crop the Summer following, than when you first sowed the Trefoil Seed; but, if you plow only once before you sow the Grain, it is a great Chance if you don't intirely destroy it. Folding Sheep after the Ground is plowed will likewise prevent the Regrowth of the Trefoil, as well as only one Plowing: And, if this is not so served, it is very apt to spoil the succeeding Crop of Wheat by its luxuriant Growth, especially where there is a good Tilth made, and the Ground well dunged. And here I must praise out *Hertfordshire* Farmer for his discreet Sowing of this Seed in its black Hull, as well as discommend the common Method of sowing it naked; for Experience shews that the outward Coat or Hull secures it very much

much against the Rigour of Frosts, Wets, Winds, and Slugs, inasmuch as it will withstand a whole Winter's and Summer's Revolution of Weather under several Plowings, and yet remain unhurt. In the common Way, Trefoil-grass lasts but two Years, hollows Ground much, and will shoot two or three Times in a wet Summer; but, in a dry one, little more than one full Crop. It will grow on a rough Tilth, and not hurt the Oats which it is sowed amongst; because the Ground, not being manured for this Grain, prevents the Trefoil from doing the Mischief.

The Nature of St. Foyne, and making it into Hay. This red-headed serviceable Grass is rarely fit to mow for Hay in this Month, but in *June* at farthest, and in *June* or *July* for Seed: If for Hay, the next Day we turn two Swarths Head to Head, and rake between the Rows; the Day following we put it into little Grass-cocks, and turn them twice a Day till made enough. Others again, in making this Hay, follow the same Method as they do in making natural Hay. But if this, or Trefoil, or Ray-grass, is much tost or tumbled about, when it is mowed for Seed, it will be very subject to shed and lose a considerable Deal. This *St. Foyne* Hay is so nourishing, that draught Horses may work under it alone, and will also keep them in good Case without any other Feed. It is always a sure Crop, even in the driest Seasons; and, when natural Grass is burnt up, this will be a vast Burthen and yield sometimes three Loads on an Acre, which we commonly sell for twenty-five Shillings a Load out of the Field. Now when it happens that *St. Foyne*, Clover, Trefoil, Ray-grass, or Lucern is got in dampish, some, besides the Use of the Tub or long Square that I have before-mentioned, will put Straw between the Layers of Hay as it is mowing in the Barn, or in

in a Cock or Stack abroad, or, instead of that, Chaff, in order to absorb the Humidity, and prevent its Firing; but then there is an Inconveniency attending it, because, if the Hay is to be sold, such Stuff will be apt to hinder its Value; however, of the two Evils, Chaff does the least Harm, on Account of its small Body, which makes it the fitter to eat with the Hay. When the red Head appears, mow this Grass, while the full Sap is in it, for, if it stands, till it is full ripe, the Sap and Heart will be spent.

Lucern, its Nature and Hay. This Grass, which of late has employed the Pen of certain Authors in its Praise, seems now to decline in its Reputation; because not only myself, but many others have tried to get full Crops of it in our Clays, stiff Loams and Gravels, but without Success. Yet a Gentleman near me sowed a whole Field of it that had a loamy Surface, of about eighteen Inches Staple, under which was a red Clay; in this it grew, and in the third Year he mowed it three Times in one Summer, but could never do so before or afterwards, though he dressed it three Years together directly after Sowing: The first Year was with Dung, next with Lime, and the last with Ashes; but after the third Year it declined so much, that in about five Years the natural Grass got up and spoiled most of it. Besides, at best, it makes but a coarse Hay, which we cure in the Field, in the same Manner Clover-Hay is done; nor is it much less free from the fatal hovering Quality, than Clover is, for, if you turn Cows or Sheep into a Field of either of these Grasses, they are liable to be killed by it: And by the Observations I have made of it, I think it will not prosper in any Ground that has a stiff or hard Bottom; but in loose Sands, and in hollow moorish Earths, where its long piky Roots can make a deep
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and easy Penetration, it will do well, according to the Proofs I have known made of it in a sandy Soil in *Norfolk*, and in a moorish Ground elsewhere: Which latter Case I intend to publish in a proper Month.

Of Artificial Grasses in general, and their Hay. That *St. Foyne* and Clover which was sown together the first Year among Barley or other Corn, in order to have a full Crop of both the Year following, the latter End of *May* is to be mowed and made together. This is a late Improvement, and we find that each Grass assists the other in their Growth by the Shade of their Roots, till the Clover is worn out, and the *St. Foyne* then grows intirely alone. But when Clover, Trefoil, and Ray-grass are sown together (as they often are) they then make the better Hay, and will last good two Years, if in the last you manure it with Ashes, Lime, or rotten Dung; for in three Years the Trefoil and Ray-grass will get the Ascendant of the Clover, and cause but little of it to appear. Clover also is a Grass which suffers very much by the Bite of Sheep, because they cut its succulent Stalks so close with their narrow Mouths, that, in this and the other Summer Months, they make them bleed or run out their Sap too plentifully, and so damage both the first and second Crop of it. In this Month you must determine whether you will save your second Crop of Clover for Seed; for then, as I said before, it must not be fed. Some, by thus saving the Seed, have got a considerable Profit by it; but I knew a Farmer, that, after he had saved one Crop of Seed, would never do so again, alleging these Reasons for it, that, after once or twice Feeding, the Horses would eat no more of its Stover, but would sooner starve than feed on its hollow husky Stalks; likewise the great Charge of thrashing it (for he had not the Conveniency of

Of Milling it) proved another Discouragement; so that he judged no Way so advantageous as feeding it, or making it into Hay, for then it sometimes yields three Loads off an Acre, as I experienced in one of my Fields in the Summer 1735, at twice mowing it; and, whenever you make Hay of Clover, it requires your Patience that you may not hurry it in too soon, before it is made enough; for this Grass, rather more than others, is very subject to a great Sweat in the Mow, when innd in the best Manner, by Reason of the large Quantity of Sap contained in its succulent Stalks. My next Neighbour was from *Monday* to *Saturday* making a Field of Clover-Hay, and then innding it, for Fear of its taking more Wet than it had; the Hay heated to that Degree, as made him throw ten Loads away for Dung: Whereas, had he waited till the *Monday* following, he had saved all by the Clemency of the Weather; however, he said he would trust Providence better next Time, for it is far more preferable to spoil it in the Field than in the Barn. *N. B.* Clover may be sown in this Month with blue Pease, or any other of the forward Sorts, because they do not continue on the Ground long enough to choak the Clover; but it will not do right, with *Windsor*-Grey, *Horn*-Grey, *Maple*, or the *Popular*-pea, or any other of the latter Sorts, because they are apt to choak the Clover, or the Clover them. And remember, that one Year's Clover sours Ground, two sweeten it, Clover hollows Ground, but Ray-grass fastens, and sours stiff Land.

The Excellency of the Lady Finger-Grass. This is a true natural Sort, that grows in my Upland-Meadows, on a loamy Surface, of about twelve inches deep, under which is a red Clay of ten Feet Depth, and under that a Chalk, and is justly esteemed the best of Grass. Its Blossom is a yellow Flower, and blows in this or next Month, much like that of a Furz or Whin, comes up with three

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Leaves

Leaves with Trefoil, carries three Branches on each Stalk, grows about eighteen Inches high, and, when ripe, is loaded with many small Kidds, with certain Numbers of little Seeds near as big as a Till, and therefore is both Hay and Corn; and, being the sweetest of Grass, the Cattle eat it very greedily, which makes it, in the highest Perfection, the most proper Hay for feeding Saddle-Horses, Deer, Sheep, and Rabbits, in the Winter Seasons, because they'll not only eat it with Pleasure, but it warms, dries, strengthens, and fats them sooner than all others. Wherefore, I recommend this particular Vegetable to the Notice and Enquiry of the Virtuoso's of the Age; and, where Ability accompanies an improving Genius, this hitherto neglected Grass may be obtained, by having its Seed gathered in next Month, clear of all other Seeds, and sowed intire in moist or dry Loams or Gravels, and even in moorish Grounds; and, if it take well, there is no Doubt, but that it will, in a ten-fold Manner, compensate the extraordinary Charge that must attend its Gathering, by Reason the Tread of the Collectors will consequently damage, if not spoil the rest of the Grass-Crop. It is here I propose the Improvement of a true *British* Grass, and not a Foreign Sort, and humbly take Leave to be so far an Advocate for its Improvement, as to say there has been no Exotic Grass-Seed ever yet imported, that is near so fine and serviceable as this native delicate Sort. I have lately tried Spurry-Seed, which some Seedsmen would fain impose on the Public for a Grass exceeding all others, and so in my Opinion it does (what I have experienced of it) for its worthless Nature. But here I publish one that has been approved of Time out of Mind by our Farmers, &c. who one and all allow its superior Goodness in answering those great Ends I here write of, and yet I can justly further enlarge on its transcendent

dent Properties, by telling you it is most serviceable for keeping Sheep from Rotting in wet seasons, and for inviting young Deer, Lambs, and other nice tender Beasts, to eat it greedily in frosty and snowy Weather, to the Saving of many of their Lives. Hence, then, may be supposed the great Benefits that consequently may be enjoyed by sowing this hardy luscious Grass-Seed in Parks, and other Places, instead of the harsh Ray-Grass, which I have known done in several such Inclosures, and which, indeed, affords an early good Seed in the Spring-time; but, after the first Head is eat off, or when Midsummer is past, it grows harsh and stubbed, so that then no Cattle care to eat it; and, the older it is in Growth, the coarser and worse it proves. Whereas this Lady Finger-Grass holds good all Summer, and Winter likewise, if it happen to be a mild one. I have heard of a Gentleman, that sowed intire Plantain-seed in a distant County from me, but what the Result was, I know not; however, I have Reason to believe, it did not answer his Purpose, because it can't be made to grow in so close a Manner, as to enjoy a great Bulk of it in a little Compass of Ground, on Account of its spreading Bottom-Leaves, that clear all Grass and Weeds about its single Stalk, for two or three Inches round. But, how much it is worth while to sow its Seed for its medicinal Qualities, I leave to the more learned Naturalist; yet I could wish I had less of it in some of my Ground, that abounds in a plentiful Degree with this Lady Finger-grass, which I annually sell to one particular Gentleman for feeding his Deer. If therefore any Person thinks fit to propagate this profitable Grass-Seed, they are welcome first to come and see it grow in this or next Month, and have it gathered and rubbed out for transporting it to any Part, or, on due Notice and Encouragement, they may have it sent them. But,

for the Account of making natural Hay, and many other curious Matters relating to the same that were never yet published by any Author, I refer you to my next Month of *June*, where I treat of them in a very ample Manner.

How a Crop of Clover may be had the same Year.
If a Person is in Necessity to have a Crop of Clover the same Summer, he possibly may have a plentiful one to mow by the Beginning of *June*, if he sows his Seed on a fine tilled Earth, that is in good Heart in the Months of *February* or *March*; provided he sows all over the same, as soon as the Seed is in the Ground, eight Bushels of *Newbury* or *Hempstead* Peat-Ashes on one Acre, and there happen to fall sufficient Rains afterwards in due Time: Or if, instead of the Ashes, he sows fifteen Bushels of Soot, and have the Benefit of seasonable Showers, he need not fear Clover enough the same Summer.

C H A P. VI.

Of Bulls, Cows, and Calves.

TO prevent Cows Hoving in Clover, and to cure them. This is the most dangerous Month in the whole Year to hove Cows in Clover and Lucern, because of their first Going into these Grasses, when they are in their greatest Vigour of Youth. I make no more to do, than to fill an Egg-shell full of Tar, and force it down the Throat of each of my Cows, just before I turn them the first Time into Clover, and it never failed my Expectation: Because the Tar, being of a hot, glutinous Nature, will lie some Time in their Bodies, and prove an Antidote against the Wind of a Belliful of Clover; and when this Grass has passed through their Bodies a few Times, the Danger, in a great Measure, is over for that Year, provided the Cows be constantly kept on this Grass. A poor Man's Cow, which he had brought up from a Calf, to eat Nettles in this Month 1741, eat so many in the High-way, that she was hove and ready to fall; but, by giving her Half a Pint of Gin, in as much Gun-powder as would lie on a Half-Crown out of a Horn, she was presently cured.

The *Essex*-men are allowed to be the nicest and best Calf-sucklers of all others, and that with a great deal of Reason, for, even in the Choice of a Bull, some of them are so curious, that they sometimes will ride about fifty Miles an End to buy one, to their Mind, and accordingly travel into *Huntingdonshire*, and other Places, to obtain the right Sort at Fairs there: For on this Choice depends the having of white Veal, and then the Seller may expect, at a brisk Market, five Shillings in twenty more than for one of the redder Sort of Flesh, which

which always meet with a low Market. The Marks then of such a Bull are as follows :

The Marks of a Bull to get white Calf's Flesh. Chuse one that is thin of Flesh before, pale, yellowish, or dun-coloured, Finch-backed, white-bellied, brown-muzzled, his Head longish, his Eyes yellow or whitish, full, ready to start out of his Head, with pale-coloured Eye-lids, and Ears so within-side, one or two Years old, and not too large. But a black Bull, with a brown List along his Back, likewise a deep red Bull are commonly reckoned bad for Breeding by, and more if they have black Eyes. About *London* they formerly bought a Bull at two Years old for about fifty Shillings, and, after using him one Year, they fatted and sold him for five or six Pounds; or, if at three Years old, he be gelt and made a Bull-Stag, he will be fatted in a Year, and sell for six or seven, if he is a large one. On *May-Day* I bought a two Year old Bull at *Windsor* Fair for a curious Gentleman, and, after the Bull had served his Cows all the Summer, he killed him fat out of his Ground in *Aylisbury-Vale* at *Michaelmas* following; for though some may keep him till he is more than three Years, yet it is rare, for, when a Bull comes to be four, he is heavy and sluggish, and then some geld him for Feeding and Fattening him; or, if he is drawn a Year or two after it, and then fatted, they will make the better Beef, hardly to be distinguished from that of an Ox. The old Verse says,

*He, that will have his Farm full,
Must keep an old Cock and a young Bull.*

Of this I shall be more particular in my next Month.

How particular Soils contribute to make Calf's Flesh white. On *Gaddeſden-Hill*, which contains many flat

flat Fields, whose Surfaces are a good Hasle Loam about eighteen Inches deep, as I said before, we seldom have a white-fleshed Calf; yet about four Miles Distance, and also a Mile and a half from me, in *Buckinghamshire*, on their whitish, on their gravelly, and on their marly blackish Loams they seldom fail of having them of a right Colour. Likewise, about seven Miles another Way in *Bedfordshire*, on their reddish sandy Grounds, they generally turn out with a reddish Flesh.

The Marks of a good Cow. On this depends a great deal of Judgment, and is so necessary to be known, that, without such Skill, a Man goes to Market with a great Chance of laying out his Money very ill; for, if he is not very acute, I am sure most of the Sellers are, and to look through the Eye, and speak by the Tongue of another, is a Risque that many would avoid, but cannot, by Reason of their Ignorance; therefore take the following Hints: Buy one that is Taper-headed, thin-necked, well shouldered, short-legged, red-coloured, if of the large Sort; but, if of the small Sort, then the black *Welch* or *Scotch* Cow is best (according to my Account in *June*;) let her be thin-skinned, yellow, and thin-horned, her Bag linge, round, and thin-leathered, well chambered before, and her Teats not too large. Feel if her Milk-vein is large, if it is, she commonly gives a great deal of Milk; a good Cow goes with Calf nine Months, and may go to Bull again in the tenth. A deep-bodied Cow is reckoned not so good a Milker as the more rounder-bodied, because much of the Meat is expended in nourishing such a deep large Body.

Marks to chuse a suckling Calf by, and its first Management. Those who carry on this Suckling Business to Advantage, besides the Calves of their own Fattening, must buy others to supply their Room when

when sold off. Now the greatest Market for this Purpose, within forty Miles of *London*, is *Leighton-Buzzard* in *Bedfordshire*, that lies seven from *Gad-desden*, which furnishes such Choice of these Creatures, that many of them are carried from thence into *Essex*, to fatten them for the *London* Butcher. And there is a considerable Advantage depending on buying those who are most likely to thrive fast, and die white : Take Care that it be of a pale red Colour, well shanked, and well loined, with a brown or mealy Muzzle, and a whitish Gum ; his Barbs, which are like so many Prickles within-side the Jaw-Skin of each Side its Mouth, must be very white and short, his Eyes hable-coloured, with a whitish Circle about them, and a small Rat-tail. But refuse a black-eyed one, with black Hairs about it, that has a black Muzzle, a red Gum, long coarse barbed, with a narrow Loin, small-boned, and a thin lank Body, all which are reckoned as so many bad Signs, that he will not prove a kind one. The Heifer's Calf generally makes the whitest Veal, and, if fat, is preferred by the Butcher at seven or eight Weeks old, but is commonly of the smallest Sort. Some will chuse large Calves to suckle, when others more judiciously refuse them, because they require a great deal of Milk, which if you have not Plenty of, they will run into Bone, rather than Flesh. The Bull Calves, for the most Part, are larger than the Cow Calves, but the Cow Sort frequently die whiter than the Bull Sort. In the Vale Grounds, where they calve Cows in the Fields, they commonly let the Calf go with the Cow a Week or two, before they sell it, and by this it becomes fitter for driving along the Road, than one that is kept in the House, which requires a great deal of Trouble to make it travel ten or twelve Miles a Day as the Drovers commonly do others. Therefore examine the Navel-String ;

and

and, if it is green and tender, the Calf is lately fell; for this will not drop off till it is nine Days old, or more. Give the Calf (if it is very young) one Teat the first Week, two the next, and all the third or fourth Week; and then, if your Milk is short, and you are obliged to cram, let it be once a Day, and only with two Crams at a Time, increasing to three or four at a Time, twice a Day; so likewise mix but a little of the Anniseed-water at first, and augment the Quantity, as the Calf grows older. The Crams are generally given an Hour before Suckling. If you are to chuse a Calf to wean, do not let it be a Heifer's, for it will make but a little Cow; but such a Calf will wrinkle one or two Years later in the Horn, than one from an older Cow.

To make Calves Flesh white by Art, &c. To bleed Calves often (as is too commonly done) is wrong; because it takes them off their Food, makes their Flesh eat dry, and not so sweet as otherwise it would be. Some Men seldom bleed above twice, once about six Weeks old, and at about a Month's End afterwards. Bleeding, indeed, clears the Fat, and adds something to its Colour, but not to the Flesh; yet, to improve this in *Essex*, I observed, they have very compact Cow and Calf-houses: For the first, they make them stand Tail to Tail, with an Inter-space of about four Feet, for the Men to pass and repass, and, at their Heads, they have square Pieces of Timber erected, with a Place to fasten their Heads in, by a Catch of Wood, that slips in at Top. On one Side of each Standing for three or four Cows, there is a square Place for three or more loose Calves to lie on Wheat-straw, laid on Boards, which have several Holes in them, to discharge their Urine into a large hollow Place underneath them. In this same square Place is a Rack, with large Chalk-stones for them to lick and eat at Pleasure. Here also is a Trough set before the Calves, with
Barley.

Barley-meat, mixed with a little Salt, for their Improvement. Others mix powdered Chalk, Wheat-flour, and Oatmeal. Others give white Oats, or yellow flit Pease. But, if Milk happen to be scarce to make it go the further, Cramming was invented, and may be managed with a great deal of Success, if rightly ordered. To do which, mix fine Wheat-flour, powdered Chalk, Milk, and the best Anniseed-water, which is far better than Gin, or common Spirits. Others will mix *Scotch* Oatmeal, sifted fine, with Milk only, and give it in small Balls four at a Time, dipped in Milk, an Hour before Suckling. Some, again, will give these an Hour after Suckling, with a few Spoonfuls of Milk after each Cram or Ball. And about *Beau-Brickhill* in *Bedfordshire*, which produces Fullers-earth, of late they have found, that this Earth, given in a Rack to sucking Calves, nourishes and whitens their Flesh more than Chalk. In *Hertfordshire*, it is the general Opinion, that, if Hay is given them in a Rack it will cause the Calves Flesh to be red; yet I heard an old experienced *Essex*-man aver the contrary, alleging, that they may as well eat this, as the Wheat-straw they lie on. But it is certain, that, if the Cows feed on Grains, Tills, or Thetches, their Flesh will look red: Or, if the Calf is permitted to lick the Ground, Wall, or Boards about him, it will have the same Effect. The *Essex*-men never cram till three or four Weeks old, and seldom that but in Winter, when Milk is scarce; some of whom are so nice to make a Calf look white, that they bleed him in the last Week twice: But if his Barbs, Teeth, Gums, and Eyes appear white enough, they bleed him only once in that Time, and that is common the Day before they have the Calf to *Smithfield* market. But, with these Artifices to save Milk and fatten (for it is the Opinion of many, that it makes the Flesh worse, than if all Milk is given

the Calves must be sure to lie dry, as I have observed, or on a Foundation of Faggots, and then duly supplied, twice a Day, with Wheat-straw, else they will be lousy and suffer. Others pretend, that it is best keeping Calves between two little Cocks of Straw in Winter, to make them sweat, believing this Way forwards their Fattening; but this is not the Opinion of many. In mine, it rather retards their Thriving, by weakening them; however, this should be observed, that, where a Number of these Calves are suckled, there should be two, if not three Calf-houses, that the Eldest and Youngest may have their proper Opportunities of enjoying their Share of Milk, in Proportion to their Age and Bigness. Before I conclude this Article, I shall add the following Receipt for making Crams:—Take the Flour of pale Malt and Chalk in fine Powder, of each equal Parts; mix both (with a very little Salt, or without it) Wheat-flour and Brandy, or Gin, or Anniseed-water, into the Consistence of Paste, or Dough; of which give three Crams, dipped in Milk, an Hour before each Suckling in Winter. But, in Summer, the spirituous Liquor is rather too hot for them, unless it be used in a very small Quantity; which makes some therefore use only pale Malt sifted, Wheat-flour, and Milk, for making Crams; and, by accustoming the Calf to this Food, he will voluntarily take the Cram off the End of a Stick. In *Hampshire*, a Farmer let his suckling Calves lie Abroad under Cover, and made the fattest Calves of any, as believing Sweating hindered their Fattening, and that artificial Food likewise prevented their Fattening on the Kidnies. Another Farmer, when he has his Calves to *Smithfield*, makes up a Dough with Claret and Wheat-flour; and, if there be Occasion, he gives three or four Crams, or more to the Calf, to keep it from sinking, and hinder it from scouring. And the Butcher, to make it die

the whiter, commonly fasts it a Night before he kills it, for Reasons I shall shew in my next Month, where I shall treat on this Subject in a Manner that never was done before, by exposing many new and profitable Secrets relating to Calves.

Of Weaning Calves. In this or the proceeding Month, I buy my suckling Calves at *Leighton*, for five or six Shillings a-piece, about a Week old, to wean; for, the younger the better, because they will take the Finger the freer: However, at first they must be suckled a little, and by Degrees used to a flat Tub, or Bowl, wherein some Milk, has been put, and the Head of the Calf forced to it with a Finger in its Mouth; and, when it has been used a Day or two to it, nail a Bit of Leather in the Middle of the Tub, to stand upright, in Imitation of a Dug; which in a little Time it will take and nibble, and suck itself. Then, in a Week or two after, you may mix Water with the Milk, letting it have good Grazing all the while; and in about six Weeks, or two Months, it will be weaned, and live altogether on Grass, with little or no Water, unless it be a very hot dry Summer, and short Grass. In the Winter following, it will be good Husbandry to let it have Hay in hard Weather; because good Keeping the first Year is the Way to have them a Year forwarder, than those kept on Straw: So a Calf, weaned in *April*, will wrinkle on the Horn, a Year sooner than one weaned late in Summer, and take Bull a Year sooner. But, in Case you wean a Calf to keep for a Bull, take especial Care that none of the People learn him to be vicious; which too many of the younger Sort are very apt to do, by daring him with their Hats, and teasing him with several Postures, which teaches him old Tricks in his Youth, that they are apt too soon to acquire by their own savage Nature; therefore, in Case you breed him, part with him at three Years old, or four at the furthest. Or, if you buy one

in, let it be at one, or two Years old at most, for Fear the like Catastrophe should happen, which befel a poor Man, whose Name was *William Nore*, of *Ivinghoe* in *Bucks*, who, being engaged as a Month's-man to a Farmer, in the Parish of *Whitchurch*, in the same Country, was sent one Morning to mow Haum, or Stubble; but, it being very foggy Weather, he could not see a Herd-bull, till he was just at him, when he immediately attacked the Man very furiously, and the Man him, till he fought him so long, as to bend his Scythe; at which Time, an accidental Person, coming by, made to the Man's Assistance; but the Bull, leaving the first, pursued the other Man, till, by outrunning him, he got safe into the Village, and raised the People, who when they came to the poor Man, he declared that, to the best of his Knowledge, he had fought the Bull two Hours; but, being miserably bruised by him, expired in a little Time after, and was buried at *Ivinghoe*, the Twenty-first of *September*, 1735, for which, as I was informed, the Parish was fined. And, about the same Time, there was another Person gored to Death by a Bull, at *Stamford* in *Lincolnshire*; and a third, mentioned in my next Month, with two particular Cases relating to the same. But to return to my Subject: Do not house the Calf the first Winter, only keep it in an open Place, just to secure its Body from the Wet, and go in and out at Pleasure; where, if to Hay you add now and then some Beans and Oats, or both, or other dry Meat, they won't be lost, as may be proved by feeding one all the Winter with Straw, and then it will be a great Chance, if it is not lousy, scabby, and stunted, as I have seen done. And if you perceive the Calf to suck, or eat, with Difficulty, search the Mouth; and if there be any Blisters, cut them with Scissars, and then rub the Part with Bay-salt and Juice of Garlic mixed. The public Road, from *Leighton* to
London,

London, joins some of my Fields, by which Drovers of Cows and Calves pass every *Tuesday* for *Smithfield*; and once it happened, that a suckling Calf strayed into my Ground, and lived a Fortnight together, in the Summer-time, on Grass alone, without any Water, till the Owner claimed it; and I have weaned several, that have done well all the hot Season without Water.

The Welch Way of fattening and weaning Calves. They wean the Calf at a Week old, in order to enjoy as much Butter and Cheese, as they possibly can; and to make the most of the Calf, either to fatten for the Butcher, or to wean it. As soon, therefore, as it is taken from the Cow, they stir into a Parcel of skimmed Milk two or three Handfuls of Bean-flour, or, for Change, Oatmeal; which, by the Help of a Finger in the Calf's Mouth, it will greedily suck and drink it in; by which it will receive extraordinary Nourishment, and thrive apace: And thus they save the common Expence of suckling them with the Cow. But to be more particular: When they first wean it, they suckle it with the Finger four or five Times a Day, and lessen by Degrees, till it comes to twice a Day, and the Calf drinks of its own Accord; and this they do for six Weeks, or two Months: Then they sell it for Veal, or turn it to Grass, giving it now and then a little skimmed Milk, or Whey, to drink.

Another Way. The Calf lies on a Stage built high for the Urine to run off; and each Calf is fastened to a Post by a Collar and Swivel, allowing them only a small Length of Cord or Chain. Here they fat them, by putting a little Wad of Hay into Milk as big as one's Thumb; which the Calf will suck himself, else it must be put into his Mouth; and by this Means he will fat for the Butcher: Likewise, at two Months End, he is turned out to Grass for altogether. My next Neighbour weaned two Calves

at a Time, at a Week old each, and at three Weeks End he turned them both out to Grass. One had skimmed Milk allowed it every Day, and thrived apace ; the other at the same Time refused it, and fed altogether on Grass, but became very lean ; but, when the former came to be kept only on Grass, he lost Flesh, as much as the other then gained it ; however, they both made good Cows.

To know if a Calf will die white, if only felt in the Dark. On each Side the upper Part of the Tail or Rump in a fat Calf, there are always two Knobs or Bunches of Fat, which the Butcher commonly calls *Duds*. These you are to feel, and, if they are hard, it will die red ; but, if tender, it dies white. A Bull-calf is seldom so fat behind as a Cow-calf. A Calf's Fat lies chiefly at the Bottom of his Shoulder, at the Udder, and at the Duds ; and accordingly the Butcher feels these Parts, to know how fat it is. The thinner the Calf is on the Back and Shoulder, the more fat it has within Side.

Grazing Cows. The very Beginning of this Month, from *Gaddesden*, and many other Places in the *Chilturn* Country, are sent away old Cows, and also Guefs-Cows (which latter are those that did not stand to their Bulling last Year) into the fertile Vale of *Aylesbury*, to fatten in grazing Grounds there at one Shilling or Fifteen-pence a Week, for twenty Weeks ; for here their Turf is so extraordinary rich and sweet, that, if the Grass is ever so short, the Beast seldom misses of getting Fat, so they have Water enough. In this Month both natural and artificial Grasses are in Perfection for feeding Cows ; and therefore, if they were not high enough in *April*, warily turn them into it now ; and remember, that, if it is Clover, the younger it is, the more dangerous it will prove, because it is then most full of Sap and Wind : But, whether it be natural or artificial Grass, always let it be fed in small Parcels, for Change of
Pasture

Pasture makes fat Calves, and then the Cattle are prevented from spoiling a great deal with their Trampling, enjoy it fresher, and it causes them to give the more Milk, observing it as a constant Rule, to shut up the Field before it is fed bare, that there may be some Shelter left for the Roots, against the scorching Heats; and that the Stalks may be less exposed to Bleeding; or, in plainer Terms, to too great a Loss of their Sap. Observe also, that in *Aylesbury*, and other Vales, it is too common a Practice to croud a Number of Sheep in the same Ground, with the Cows that are sent there to fatten. In this Case, the Owner of such Cows ought to be as wary as the Grazer is covetous, and refuse such a Place, because a Sheep stains Ground the most of any Creature of its Bigness, and is therefore the most disagreeable to the Cow, who hates to feed, wherever it dungs, stales, or leaves its oily Scent by lying on the Ground. Likewise in this Month, we *Chilturn* Farmers, who live near this Vale, whenever we have a good Cow, that at this Time of the Year is gone about half her Time with Calf, and our Keeping is short, we commonly let her out for a small Parcel of Money to a poor Man, who maintains her on his Right of Common, for the Sake of her Milk, till *Michaelmas* following, when she is returned, and becomes a Winter Milch-Beast, that generally is full as profitable as the Summer one, where there is Plenty of Meat. In the next Place, I should give an Account of the Profit of Milch-Cows; but, for Want of Room in this and next Month, I must defer it till *July*.

How two Cows died by ill Management after Calving. In my last Month, I told you, that, if a Handful of Salt was strewed on each Side of a Calf, as soon as it could be done after Calving, the Cow, by licking it, would soon glean: And now I proceed to inform you, that it has often caused her so

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to do in two or three Hours Time, if she is in Heart, as I every Year experience. Then milk her once or twice before the Calf sucks, and give her the Milk to drink. It is a Fault to keep a Cow too well before she calves, for then she is apt to be so firm of Milk, as to endanger her Life; a Neighbour of mine had one in this Manner, that fell and died. Another fleshy Cow calved well, but, upon the Owner's giving her half a Bushel of Grains too soon, stocked her with so much Milk, that she fell and died. This also will be the Effect of cold Water, if given to a Cow that has been kept before in the House, the first Time after Calving; therefore we make it Blood-warm, twice or thrice, and put a Handful of Bran in each Pail. Now, to prevent the like Misfortune, give her dry Meat, a little at a Time, for the first two Days after Calving, to check the Milk, and hinder Danger. But when a Cow is poor, or in middling Order, there is no Occasion for this Sort of Management. However, for a more particular Account of these Matters, I must refer you to my next Month, wherein I shall recite a curious Case, as it happened to a Cow in *April*, 1736. In the mean Time I shall here add the following Receipts, by Way of Supplement to those mentioned in my former Treatise for *April*.

A most excellent first Drink to be given a Cow after Calving, to keep her in Health. I know several Sorts of Receipts that have been made Use of on this Account, and which I may mention in their proper Places: But there is none of them, for Cheapness, Readiness, and Efficacy, so valuable as this, which I learned of an eminent Farmer in *Somersetshire*, where they run chiefly on Dairying; who being a perfect Stranger to me, and, as I was informed, Master of several rare Receipts, which he practised with Success, I could not tell a

better Way to come by some of them, than to talk of some Improvements in Farming, which he liked so well, as to be free with me, and accordingly we exchanged some; and among the rest he communicated this supperlative one to me, which I have since several Times tried, and never found it fail my Purpose, and is as follows: Boil a Pint of Wood-foot in two Quarts of Ale till one Pint is consumed, then add and mix half a Pound of fresh Butter with it, and give it altogether, when near cold, and out of a Horn, to the Cow, and, if there be great Occasion, repeat the same at three Days End.— But my Way is to sweep half a Pint of that Soot as lies over the Oven's Mouth, and boil this Quantity in three Points of strong Beer or Ale, about fifteen Minutes; then add and mix a Quartern of Butter with it, and, when almost cold, put in a Pennyworth of Flour of Brimstone; then let one Man hold the Cow by one Horn, and her Nose, and the other give the whole Drink at several Times out of a Horn, one after another, as fast as she will take it.— This last is what I make Use of, and when any Inflammation in the Bag appears, which commonly is the Fore-runner of that deadly Disease, the Garget, I immediately give the Cow this Drink, and it always makes it, as it were, vanish away. The last Case of this Nature happened to an old Cow of my own, when Word was brought me, her Bag grew hard and very hot, and her Milk stringy, on which I gave her but one Drink, and heard no more Complaint. But this is absolutely necessary to be given to all Cows in general, the third or fourth Day after Calving, by Way of Securing her Health *in futuro*; and so much Stress is laid on this Prevention by most of the *Somersetshire* Dairy-men that they seldom let one Cow miss having it; and, since it has been thus in common Use, they tell me they are never troubled with a
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Inarled or inflamed Bag, nor any other Distemper arising from corrupted Blood, for that this Drink so purifies it, as to cause the Cow to give a most wholesome Milk. Thus I have cured my Cows, when one or more Teats have been sucked by the Hedge-Hog, which commonly caused Blood to follow, and a sore Dug. The first went away by one or two Drinks, and the other by anointing with Hogs-lard.

To make a Cow glean well, and keep her in Health afterwards. Take three Pints of Ale at least, a Quarter of a Pound of Currants, the like Weight of fat Bacon minced small, two or three Sprout-leaves, with a little Mint and Sage shred, and a little Handful of Oatmeal. Boil these together, and, when off the Fire, add a little Treacle. This is accounted a famous Receipt to heal a Cow's Body, not only in this Case, but also for restoring her Cud, and removing all Obstructions of the Maw, which cause several Distempers. And as it is a Custom with some to give all their Cows a cleansing Drink after Calving, I recommend this to be a good one for that Purpose. — A second is, to boil some Mugwort in three Pints of Ale, and, when almost cold, add a Pennyworth of Flour of Brimstone, strain off, and give the Liquor warm. A third is, to boil some Cabbage in a Pound of Bacon-Grease, and give it altogether. — A fourth is, to boil a Quart of ground Malt in two Quarts of Ale, and give all warm. A certain Person gave this last to a Cow, which, on the third Day after Calving, had not gleaned; but in five Days after it came away whole. But, in some other of my Monthly Books, I shall discover a Capital Secret, how to make a Cow glean in an Hour's Time for a Wager.

To dry Milch-Cows for Fattening. The Beginning of this Month being the common Time for putting

Cows which are not with Calf into Grazing-grounds to fatten: If they are not dry, dry them directly by bleeding each Cow in the Milk-vein. Others will do it by giving a Cow a Quart of old Verjuice once or twice, and it will make the Milk come away in Bits, and dry her on a sudden; but the Bleeding is most commonly used as the safest Way, because, as this Vein feeds the Milk-bag, the Milk is hereby checked, and that without Danger of a Gangrene ensuing: The Way of performing it is, by the common Phlegm-Instrument that Horses are bled with, and is a much safer Method than cutting off the Teats for this Purpose, as I have known done. Yet, as a better Way than all others, some will bleed the Cow in the Neck well, then anoint her Bag all over with Turpentine and Tar mixed together, and turn her out for good. But the Graziers make no more to do, than to let a Cow go unmilked, four or five Days, till her Bag akes and she mooes to be milked, then three Days after milk again, and three after that, and a Whey and Bits will come and she dry.

The Suffolk Way to make a Cow take Bull. This County, it is well known, abounds with many Dairy-Farms, and is no less famous for their excellent Barrel-Butter, than they are for making the worst of Cheese. When they sell their Firkin-Butter for twenty-five Shillings, they esteem it a topping Market; and as great Numbers of them chiefly trust to a Butter-market for a Livelihood, it more than ordinary concerns them to have their Cows calve at such a seasonable Time, as to enjoy the Grass in its full Perfection, otherwise it would prove a very great Prejudice to the Farmer, if he is obliged to feed dryish Cows on an early Bite. Besides, by having a new milched Beast forward in her Milk, the Owner is enabled to have the Benefit of the first Butter-market; to do which effectually, they have of late

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found out a Way to make a Cow take Bull at a desired Time, thus: Let one Man hold the Cow by the Horn and Nose, while another gives her a Quart of strong Ale, or better so much stout Beer, out of a Horn, and in an Hour's Time drive her to the Bull.

The Cheshire Way. This fertile Country is no less known for its famous Cheese, than *Suffolk* is for its Butter; and, for the foregoing Reasons, are obliged to study the Enjoyment of an early Milch-Cow. They therefore give half a Pint of Brandy or Gin at once, out of a Horn, and, at twenty-four Hours End, drive her to the Bull. And, to make a Cow stand to her Bulling, in next Month I shall tell you three several Ways, as they have been practised with Success.

To feed Cows with Ray-grass in Racks. In this Month some mow Ray-grass, and give it to Cows in Racks daily.

To mow it for Hay. The latter End of this Month I saw Ray-grass laid in a chalky Soil near *Winchester* fit to mow. In rich Grounds it has been mowed twice in a Summer.

Rye to be mowed for Cattle. By *Windsor* they mow it the latter End of *April* or Beginning of *May*, to give it to Cows and Horses in Racks. It is good to scour Saddle-Horses.

To feed Cows with Clover out of Racks. This Way I follow myself most Part of the Summer, by contriving to have a near Field sowed with Clover-seed, for then we can mow it daily, and bring it Home with more Ease; a distant Field, therefore, is not proper for this Undertaking; but, when we enjoy Clover out of Home Closes, by giving it to Cows in Racks under Cover, it prevents the common Danger of Hoving, Spoiling great Quantities of Grals by the Tread of their Feet and their Dung; the Torment of Flies, and the too great Heat of
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the Sun; the Fatigue of driving them to the Field, and the Risque of the Cows breaking into Neighbours Grounds. Instead of which Disasters, that are incident to Cows grazing on Clover in the Field, we obtain great Quantities of Dung at Home, and employ our offal Straw to the best Advantage, large Quantities of Milk, and the Fattening of Beasts at the same Time, in the quickest Manner. Hogs also will feed on the Orts of Clover, as it falls from the Cows Racks, and go a considerable Way in the Subsistence of Store-Swine. One Acre of Clover, fed this Way, is thought to go as far as some six of natural Grass fed in the common Way, and as far again, at least, as Clover fed with Beasts in the Field.

CH A P. VII.

Of Cheefe.

IT is certain that there is a great Difference in Grounds, in Cattle, in Grasses, and in Management, as they all relate to the making good and bad Cheefe. Some natural Grass will have Cheefe, when others won't, as will most of the artificial Sorts, namely, Clover, Lucern, and Cow-grass, &c. Likewise, there are several Weeds or Herbs of ill Consequence, as Melilot and Crow Garlick, that are such stinking Vegetables, as oblige some Farmers to employ People to pull them up in this Month, to prevent their damaging the Butter, Cheefe, and Corn, which they will be sure to do, where they grow in too great Plenty and are let alone. The Cliver, or Rennet or Curd-wort, has a strong stinking Smell, and is also pernicious in curdling Milk in the Cow's Bag; but they seldom eat it. Long Grass likewise produces a watery Milk, that is much

much fitter to suckle Calves with, than for making Butter or Cheefe, because it does not afford so sweet a Milk, nor yield so much Cream as the shorter Honey-Suckle, Lady's-finger, Wild-thetch, and some other of our Meadow Grasses do. But this is not all, the Fault lies sometimes in the Cow; some will give a thin blue Milk, when another will give a thick creamy Sort: However, this is surely true, that, let the Ground, Beast, or Grass, be in their full Perfection, the Cheefe may, and is, often spoiled by a bad Housewife, as is annually proved in several of the *Leicestershire* and *Warwickshire* Dairies, where, when they had a good Servant, they had good Cheefe, and, when a bad one came in her Room, they had as bad. A Neighbour of mine, who carried on a Butter and Cheefe-Dairy, by the Help of Clover that grew on a hilly clayey Soil, used to have a Commodity that sold tolerable well, while his Wife lived, but never after could get a Dairy-maid that was capable of making either of these, from so precarious a Grass as Clover, though he changed several. In *Warwickshire* and *Leicestershire*, of late they sow a great deal of Clover, by which, with the Help of Stover or dry Fodder, they can begin to make Cheefe in *April*: But, as Clover and Stover are apt to make hollow rank Cheefe, they carefully strive to cure it, by salting the Curd a little the more; and yet, if it is salted too much, it will be dry and unpleasant. Another Way they take to prevent this is to put Water on the Rennet-bag, instead of Whey, and it will much help it. To this I add that necessary Precaution of breaking the Curd well, for this is a principal Matter, because then it will let out the Whey easily, which otherwise, in some Degree, would remain in it, and cause the Cheefe to taste rank, and rot soon; for Bits of Curd missing, being broke, will infect the whole Cheefe. The common Sort of Cheefe, sold in Shops,

Shops, is what they call *New-milk Cheese*, which to answer the Appellation, should be made with all new Milk; but this seldom happens, because it is generally made with half skim, and half new; or what is more properly called *Two-meal Cheese*. Yet there are two worse Sorts than this; one called *Three-meal Cheese*, that is made with two Parts skim, and one Part new, and the other with all Skim-milk, which latter is made in many Farmers Houses for their own Family Use. I knew a Dairy-man that lived near *Lilly-Hoo*, who, when he sold Butter for five Pence Half-penny *per Pound*, reckoned his true New-milk Cheese to stand him in three Pence Half-penny *per Pound*, and therefore sold his own Cheese to some particular Customers, and bought, for his Family Use, what they called at *Baldock Fair*, *New-milk Cheese*, for two-Pence a Pound. A Gentleman, willing to have the best of Cheese, bespoke one to be made with all Cream; but he was answered by his Dairy-woman, that there was no such thing to be done, because the Curd would then be too short to work, but that it might be done with half Cream, and half new Milk.

To make Rennet. Good Grass causes a good Rennet-Bag; that may still be made better, if the Calf sucks about six Hours before it is killed, for then the Curd will be the newer, and the Bag must be got away as soon as can be to be washed and scoured with Salt on both Sides, to make it sweet and white. Then, after the Curd is cleaned and washed, it must be put in again to the Bag, with a Handful or two of Salt, and skewered up to lie in an earthen Pot, close covered in a dry Place. When the Rennet is to be used, put some Salt into a Quart of Water, till it bears an Egg, and boil it; when cold, put it into the Bag, and let all lie in the Pot again. This Rennet will keep a Month good, and,

and, to about sixteen Gallons of Milk, use two Spoonfuls of this Liquor. If the Milk is cold, it must be made near, but not quite so warm, over the Fire as it came from the Cow, lest it turn the Milk to Curd too quick, and then the Cheese will be tough and hard; but, when they use the Milk directly from the Cow, they don't heat it at all. In very hot Weather, I knew a Man, who kept but four Cows, put all his Milk into one Tub, and immediately, out of a River just by, he took a Bucket of Water and threw it into the Milk, in order to temper it, and make the Curd soft; then he directly mixed his Rennet with it. My Servant takes the following Method: She recruits the Rennet-bag three or four Times a Year with fresh Brine, and, when she is about to make Cheese, she puts some Whey to stand all Night, and in the Morning she skims off a Sort of Cream; then takes her Rennet-bag out of her earthen Pot, and lets it lie two or three Days in this Whey; by this Time it is sufficiently tinctured with the Brine and curdling Nature of the Bag (which she never makes any Holes in, as some do) then she takes it out, and uses the Whey for Rennet, that will keep three or four Days or longer; and thus she proceeds all the Time she makes Cheese, for a few Cows, each Time throwing Salt on the Bag, to keep it sweet in the Pot, and as it grows weaker, through often Using, the more Rennet must be put into the Milk.

The Welch Way of making Rennet. In Caermarthen-shire, the Women empty the Curd out of the Bag as soon as it comes from the Butcher, and, after cleansing it well from Hairs and Filth, she rubs it soundly with Salt, till she intirely 'clears it of all Slimy Matter; then she washes it with Salt and warm Water, and lets it lie under Salt in a Pan a Day or two, when she mixes a Pint or Quart of Stroakings, with a Handful of Salt, and puts all into the

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Bag; then she runs a Skewer through at Top, and hangs it up, with a Pan underneath, to catch the Brine. Now, to improve this Brine, she takes a Handful of an Herb called there, *Goose-tongue*, and not quite so much Fennel, two or three Rases of Ginger bruised, and a few Corns of *Jamaica* Pepper, and two Handfuls of Salt; these she boils in three Quarts of Water, till it is half consumed, stirring it well all the Time; then she strains it off, and, when cold, mixes it with the aforefaid Brine that dripped from the Bag, and thus she has a Renner for making Cheese. Again, when she finds the Brine ceases to drop from the Bag, she puts a little more Milk and Salt into it, and when the Bag decays, which it generally does at a Year's End, she boils it in the Liquor to get the Vertue out of it. *Note*, if the Calf sucks the Cow before she has been milked two or three Times, it will not only damage the Calf, but render its Bag very unfit for the Renner Use, by breeding a hard Curd in it. *Note also*, That the *Goose-tongue* Herb grows chiefly in marshy Grounds, is very hot on the Tongue, and bears a yellow Flower in this Month, with an indented Leaf of a longish Make, somewhat like a *Goose's-Tongue*, that will not only help to preserve Cheese, but give it an agreeable Relish, as the *Welch* say.

To make a bottled Renner that will keep Cheese from boving, and preserve it sound. Put four Gallons of Whey into a Kettle, and, as it heats, throw a Handful or two of Salt into it, which will raise Curds, that, before it boils, must be all clean skimmed off. Then put into the remaining green Liquor some *May-flowers*, or Leaves, Boughs, or Bark of *Black-thorn*, and boil them in it a Quarter of an Hour; when cold, strain off. In this put two or three Calves Bags, that have been kept some Time in a Pot of Brine, to lie three Days; then take them

out, and bottle up your Rennet well corked for Use. This is best made in the Months of *May* and *June*, and thus a Woman, that kept but six Cows, made her Rennet for the whole Year. In some great Dairies they keep ten or twenty of these Rennet-bags in several Pots of Brine, that they may have them to use at a due Age; and, to preserve them in the Pots, they throw some Salt on their Tops now and then, as they lie in the Brine, which will still increase their turning Quality, and make them hold good the longer. Another makes bottled Rennet thus: Put one Pint of Whey into six Pints of Water with a Handful of Salt and five Sage Leaves, boil all a Quarter of an Hour, when cold, put in the Bag, and let it stand four Days, then strain the Liquor into Bottles with a Dozen of Cloves.

To make Cheese. After the Rennet is stirred into the Milk in a Tub, in about half an Hour, more or less, it will become a Curd, which must be broke by gentle Degrees with a Skimming-dish, as equally every where as possible, for on this depends chiefly the making of good Cheese, otherwise you may expect it to be full of Holes and Eyes: Then put the Curd into a Cloth, and move it to and fro, Cloth and all, over the Cheese-rack, and clear it of the Whey. When this is done, put the Curd and Cloth into a wooden Mould, or Cheese-vat, and a wooden Cover on that, and then press it, that the remaining Whey may run out through the Holes in the Vat: Next Morning take it out, and salt the Cheese all over, turn it, and put it into the Cheese-press again; when it is stiff enough, take it out, and put it on a Shelf, where the Cheese must be turned often, and wiped with a coarse Cloth.

To make Cheshire Cheese. Their Soil, in many Places, is of a marly, and some of a rich sandy Nature, which bears a most excellent Grass, that produces a rich Milk, and the best of Cheese.

Here they break their Curd well with the Hand, and upon every Layer of Curd they sprinkle a little Salt, and so on the Outside at each Turning, which, after a Year's End, is fit to eat, but better if it is two or three Years old. I have eat this Sort in a very mellow pleasant Condition, after it has lain some Time in a Wine-Vault on a Pipe of Sack; but better still, when it has been fed with Sack, put into a Hole of it, which certainly improves this Sort of Cheese to a surprising Degree of Richness. But, in some Parts of *Wales*, they make Cheese of Sheeps, Cows, and Goats Milk, that, they say, exceeds *Cheshire* Cheese. Therefore in next Month I shall give you a very particular Account of making *Cheshire* Cheese, and another to make Cheese with Sheeps Milk, that is sold in *Chester* City for Six-pence a Pound, as it is made and brought there out of *Denbighshire*.

To make a very thin Cheese. To make this Cheese, some will fill the Cheese-vat with the Cloth and Curd; but, as it sinks, fill it up with fresh Curd every Hour till Night; but never do this with the Hand, only with a Skimming-dish. Next Morning they take it out, turn and salt it all over, then put it into the Cheese-vat again, and so on till it is stiff enough to take out for good. Then turn and wipe it on a Shelf Night and Morning; but, if it is late in the Year, some put this Sort of Cheese at Night in a Rack made for the Purpose, and in the Day-time on Shelves. When one Side is gently dried before the Fire, they turn the Rack, without shifting the Cheese, till it is thoroughly dried. This thin Cheese, made with all new Milk, is ready to eat in a Month's Time.

Marygold Cheese and Carrot Cheese. It is made as others, only with this Difference, bruise or beat the small yellow Flowers, and squeeze out their Juice, which must be mixed with the Curd, when broken, and

and stirred well into it. It is a rich Cordial Juice: And so the Carrots are to be beat, and the Juice squeezed out.

Sage Cheese. It is made like the rest, only bruise Sage and Spinage together, and put the Juice in with the Rennet; the more Spinage, the less the Sage will taste.

To make a fine Cheese. Take three Gallons of Stroakings, and put to it a Gallon of boiling Water with a Quart of Cream; mix them well. If it be but the Stroakings of ten Cows, put in three Pints of Cream. When it is of a right Warmth, put in your Rennet, and, when it is come, cut it every Way with your Knife, and, letting it stand, it will settle itself without your Hands; then put it into a Cloth, and turn it every Way till the Whey be out of it. Then put it into the Vat or Mould, and press it half an Hour, at the End of which take it out, and set it in a Tub of cold Water in the Vat, and when it has lain here one Hour, put it again into the Press, in which let it stand one Hour; then take it out and salt it, and put it in the Press to stand till next Morning, when it must be put into a wet Cloth, changing it as often as it dries, and be sure to keep the Cloths sweet and wet. Set it in the coldest Place you can, and it will be ready in a Fortnight. If you make this Cheese in the Fall of the Leaf, it will be good till *Christmas*, and longer; but then you must add more Milk, Cream, and Water, in Proportion. *N. B.* If you make this Cheese early in the Spring, or at the Fall, then put your Rennet into it the hotter; but, if in Summer, as cold as it will come.

To make Slipcoat or Cream Cheese. Take six Quarts of new Milk, a Pint of Cream, and a Spoonful of Rennet, and, after the Curd is come enough, take it gently from the Whey; then shake, or rather squeeze it tenderly in a Cloth over the Cheeserack

rack, and put all into a wooden Mould, and a Weight of three or four Pounds on its Cover. Next Morning take it out, salt and turn it, then put it into the Mould again, with the same Weight on, and at Night take it out for good. This Cheese must directly be laid on a Bed of Nettles or Rushes, or Ash-leaves, and covered with the same, shifting it twice a Day, for eight or nine Days, and then it will be ready for Eating.

To make an excellent Cream Cheese. N.B. Take two Quarts of sweet Cream, set it over the Fire till it has boiled up; then take it off, and put to it four Quarts of Stroakings warm from the Cows, and when you have stirred it together, that it is not too hot, put into it two Spoonfuls of quick Rennet. When it is come, turn it whole into a Cloth, then whey it as you do any other Cheese, and, when it is come well together, put it into the Vat, and lay about ten Pound Weight upon it, only till you can turn it, which must be in an Hour or two; then take it out, and put it into fresh Cloths, till it will wet no more. Then salt it as you think fit, and let it lie out of the Press a Day or two, when you are to put it between two Pewter Dishes, and turn it once a Day for three Weeks; then take it from between the Dishes, and let it be four or five Days before you eat it.

The Montgomery Way to make Cream Cheese. Take six Quarts of Stroakings, or new Milk, and one Quart of Cream; then put one Quart of boiling Water on it, and a Spoonful of Rennet, which cover very close with Cloths. When it is come, whey it with a Skimming-dish, but have a Care of bruising the Curd too much; then turn it on a Cloth into the Cheese-vat, and let it lie under a six Pound Weight. Change your Cloth once in three Hours, but be sure not to let it be quite dry when you use it, lest it sticks. Lay Salt on the last

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Turning, and keep it in Grass near the Fire, with Flannels under and over it.

To make a poor Cheese. A certain Farmer who kept but three Cows, and made Butter, used to put a little Skim-milk to his Butter-milk, and make it into Cheese: Also, in some Parts of the *West*, where they carry on the hot Dairy, they make a poor Cheese with the Skim-milk that is commonly sold to the Tanners or Miners of *Cornwall*, for ten or fifteen Shillings a Hundred.

To make a rich Cheese. Mix half your Quantity of Cream with your Milk hot from the Cow. If six Gallons of Milk, there must be three Gallons of Cream. Stir them together, and put in as much boiling Spring-water, as will make all a little hotter than Milk from the Cow; then put in a Spoonful, or as much Rennet as will do. When the Curds are come enough, gather them from the Whey into a Cloth, and break them very small; then salt it, and put it into a Cloth again, and then into the Vat and Press for only two Hours. While this is doing, boil the Whey, and take out the Curds from it; then put the Cheese into this Whey to stand half an Hour, at the End of which, put it into the Press again, and, when it is enough done, roll the Cheese in Linnen very tight, and let it remain so fourteen Days, and turn it twice a Day for a Month. This rich Cheese is as well worth nine Pence a Pound at the Dairy, as Two-meal Cheese is three Pence: But even this Cheese is not to be made so good from long Vale Grass, as from the shorter and finer Sorts. If you first tincture this Cheese well with Mace, it will give it a very agreeable Taste.

Several Directions to make sound Cheese, and preserve it so. Take Care you don't put too much Rennet to the Milk, for that will bring on the Curd too quick, and hove the Cheese. Likewise, if the Milk

Milk is too hot, when the Rennet is mixed with it, it will do the same. New Rennet is also apt to bring on this Misfortune, and therefore some are so careful, to mix the new with the old: Or, if you are to use all new, keep it a Week before it is put to the Milk. Others, to prevent the Cheese's Hoving, will mix skim and new Milk together, which, with well breaking of the Curd before-hand in the Cheese-vat, and squeezing the Whey out clean, will answer the End. Others take a great deal of Care not to over-press it, lest it make the Cheese hard and unpalatable; though it is certain, that, by such hard Pressings, the Cheese will keep the longer. The forward made Cheese, in some Seasons, dry so fast, that they are forced to turn them often, and rub them, to keep off a blackish nasty Coat, that otherwise would eat into them, and spoil their Sale. Some again, more nice, after they are rubbed and turned several Times, will butter their Out-sides all over and keep them sound, and add a golden Colour to them. If the Summer is very hot and dry, put the Cheese into shady Places, and dry leisurely, for, if they dry too fast, it is apt to hove them, and make them full of little Holes. But in, and after *August*, they never fear this, nor that they will have a bad Coat. Others, to keep Cheese from rotting, will put Whey on two Rennet-bags, to the Quantity of a Gallon, which they let lie three Days, then draw out the Liquor, and boil it with some Bark of Black-thorn; when cold, either put it over the Rennet-bag, a little while, or, by adding some Salt to it, you may use it directly. You may give Cheese several Sorts of Relishes as you like best, by boiling Sweet-briar-tops, or Mace, or other Spices, in the Brine or Rennet: But Mace alone is preferred by most. In this Month, in some Grounds, Cheese is very apt to hove, though the Cows are fed on natural Grass; and therefore, in some

some Dairies, they don't make their thick keeping Cheese till *June*. I know a Ground in a certain Vale, that, in dry Years especially, runs into Knot-grass or Clob-weed, wild Garlick, and some other pernicious Weeds, to that Degree, that, if they don't break the Curd very well with their Hands, after it is wheyed, and then cut it into Diamond-Pieces, and work it a second Time, the Cheese will certainly prove specky and rot: Or, if they put a greater Quantity of Rennet into the Milk, than what by Experience they have found proper, it will surely hove the Cheese into a Puff, and spoil it.

Somersetshire Cheese. They break the Curd as leisurely, and as small as possible, then drip out the Whey; with this Whey mix half Water, and heat it over a Fire between warm and scalding; then strain it upon the dry Curd in a little Pail or Tub, and work it round with the Hand, and, after it has thus lain half an Hour till the Whey creams over, drip the Whey out and knead and bruise the Curd well; when so done, put it in a Cloth and then into the Vat, and press an Hour; then take it out and wash the Cloth, and let it stand in the Press till the Evening, when it is to be taken out and salted on both Sides and pressed again till next Morning; then take it out and put it into a dry Cloth, and let it stand till the next Evening; now it is to be taken out from the Cloth, and let stand naked in the same Vat to smooth it all Night; next Morning take it and put it on a Shelf. *N. B.* The Whey and Water is to keep it from hoving.— In next Month I intend to give you a very particular Account how to make *Cheeshire* Cheese, and thirteen other Sorts, more than are here, that you may make that which best fits your Fancy.

To turn Milk without Rennet. A French Author says, that Carduus-seeds, the Spawn of a Pike, the Juice of the Fig-tree, Ginger, the inner Skin of

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a Hen's

a Hen's Stomach, or the Flowers of Thistles or Artichokes, are of so four a Nature, as to turn Milk into Curd: But the most natural Thing of all others for this Purpose, is certainly the Maw of a suckling Calf or Kid. Some cut off a Bit of this prepared Maw, and put it into the Milk: Others pickle the Maw, and dry it in the Smoke. In *Essex* they have an Herb called *Cheese-Rennet* or *Yellow-Lady's Bed-Straw*, which turns Milk into Rennet.

The Character of a good Cheese. He says, it should be fat and heavy, the Meat of it close, and well compact, of Colour something yellowish, sweet taste, pleasant to smell, and nothing mouldy or rancid; made of pure Cows Milk, without mixing any Sheeps Milk therewith, for it makes the Cheese less savoury, and more whitish.

To make Cheese at Over in Cambridgeshire. To twenty Gallons of Milk, they put three Spoonfulls of Rennet, and in half an Hour it comes; but they don't put it hot from the Cow, only luke-warm, else it will be tough, and run to Coat. Then break it with a Skimming-dish, and stir it from the Bottom all one Way, for, if it is mashed together every Way, it will be lean, *i. e.* the Butter will run more into Whey. When it is settled half an Hour, take out a Plug that stops a Hole in the Middle of the Tub to let out the Whey; then put the Curd into a Canvas Cloth, and roll it gently up and down between two Folks, till the Whey is drained out. When done, tie it up, and hang all on a Nail to drip dry; then put it into a deep Cheese Vat, and lay a Board over it, and on that a four Pound Weight, to fasten it, and leave it so for a Night. In the Morning, this Cheese is turned out nine Inches thick, and with a long silken Thread cut into Cheeses half an Inch thick, which are laid on smooth Boards and gently salted and turned twice

A Day for the first four Days, and then laid on Nettles near the Ground, and turned twice a Day for three Days, and the next Day they are laid on Boards to dry; and six Cheeses, on each of them Boards, are carried to Market, where they are sold after three Pence and four Pence a Pound. In hot Weather, eight Days, in cooler, a Fortnight finishes them.

A second Sort of Cheese, called Morning-Milk-Cheese, is made of the whole Meal of Morning Milk, and set not from the Cow, and made after the same Manner, and will sell for two Pence or three Pence the Pound. This Cheese will have a rough Coat, and will keep two or three Years, if laid moist in a Cellar, the other will be smooth.

A third Sort, is made after the same Manner, but thicker, and pressed harder, which will keep all the Year, and is called *Morning-Milk-Cheese of the first Make.* This sells for four Pence the Pound, and is dry and fit for Eating the latter End of July.

A fourth Sort, called Evening-Milk-Cheese of the first Make, is made after the same Manner, and sells for a Half-penny, or Penny a Pound less. The Reason, why Morning Milk is best, is thought to be from the Rest of the Cow; is much less in Quantity, and is but eight or nine Hours from the last Milking; and it yields more Cream, and it will not sour in hot Weather, so soon as the other, by three or four Hours.

A fifth Sort, is Two-meal Cheese, viz. the Morning Milk is set till Night, and skimmed, and to it the Evening new Milk is put, and so made into a Cheese as before, which will sell for two Pence, or two Pence Half-penny the Pound.

A sixth Sort, is fleet Milk Cheese, which must be in a Heat accordingly, when put together, and made as the other, only pressed very hard, and sold

at two Pence the Pound, or under; but it is seldom brought to Market.

The old Way of making Cheshire Cheese. When, at six Years old, the Cows are in their Prime, sixty will yield six Quarts each every Meal; of this the best Cheese is made as follows: The Milk is strained into a Cheese-Tub, as warm as they can from the Cow, to which are put six Spoonfuls of Rennet, which being stirred well together, and covered with a wooden Cover made fit for it, about the Beginning of *June* it stands three Quarters of an Hour, but in hot Weather less Time; then with a Dish break it pretty small, and then it must be stirred gently moving till it is all come to a Curd, when it must be pressed down with the Hands and Dish gently, lest the Whey rises over white; and when all the Whey is drained, and the Curd pretty hard, then it must be broke into a Vat very small, and heaped up to the highest Pitch, and then pressed down with the Hands gently at first, afterwards harder, till as much Whey be got out as can be that Way, and yet the Curd be at least two Inches above the Vat, otherwise the Cheese will not take Press, that is, will be sour, and full of Holes or Eyes. This done, it must be put into one End of a good flaxen Cloth, and covered with the other End; and then the Cloth must be tucked in with a wooden Cheese-Knife, that it may lie smooth, and yet keep the Curd quite in; then this is pressed with a Weight of four Hundred, and left to stand from Morning about Nine, till Afternoon about Two o' Clock, and then taken out, turned into a dry Cloth, and pressed again till Six at Night, and then it is taken out, and salted all over (else it will be maggoty) and put in the Vat again to lie in it all Night; then it is taken out and salted again, and so it lies in a Tub, or on a Dresser, four Days, only it must be turned every Day: This done, it is washed

washed in cold Water, wiped with a dry Cloth, and carried into a Cheese-loft to dry, where it must be turned and wiped every Day till sold. If the Salt is not wiped or washed off, it will give, and make the Cheese always moist. The Reason of Mouldiness, Cracks, and Rottenness, is the not well Curing it, as Pressing and Looking after it well.

Remarks on Cheese and Butter. If Milk be set too hot, or be scalded in the Curd, as some call it, the Cheese will be bitter, and, the longer such is kept, the worse it will be. If it be set over cold, it will cut white, and eat harsh and dry when new; but it will improve by lying, and is best esteemed of for keeping Cheese. One of the greatest Faults in Cheese is, its Heaving, which is common where there is the richest Pasture: Some say the best Way to help this is, by pasturing Sheep with their Cows, that the best of the Grass may be quickly eaten. Another Way is to salt them in Brine, or lay them on cold Pavements, for it is reasonable to believe, it is caused by an over-great Fermentation, not only from the Heat, but also from the Briskness and Thinness of the milky Particles gained from the Luxuriancy of the Grass; therefore cool Rooms in Summer, and warm ones in Winter, are most agreeable. — To stop the quick Flight of watery Particles caused by drinking cold Beer, and other thin and spirituous Liquors, that leave the Body dry, faint, and feeble; the *Dutch* eat much Butter, the *French* much Bread, and the *Spaniards* much Chocolate, which is very oily. If therefore our Mowers, and other Labourers, would use hot Broth more, or buttered Beer, or Ale, it would make them cooler, less thirsty, and enable them to do more Work. Cheese is a Food most nourishing, and, if good, the older the better; we see it and strong

strong Drink support the Labouring-man six Days in the Week. Cheese is valued every where.

CHAP. VIII.

Of Butter.

AS I have already observed, that some Ground will not produce good Cheese, I likewise have here some Reasons to offer on Account of Butter; for where the Grass is long, rank, rushy, marshy, or in Woods, then the best Sort must not be expected: However, as Art assists Nature, somewhat of these Deficiencies may be helped by Improvements. First, then, I shall observe, that the Food of Cows are natural and artificial Grasses, Turneps, Coleworts, green Thatches, Rye, *French Wheat*, &c. But the natural Grasses are, past Dispute, the best of all others, and of them the Upland Sort excels; and, of that, the Grass, produced by the Manure of Ashes, Soot, Lime, or Salt, is the sweetest, for making Butter; but that, which gives the Butter a delicate deep yellow Colour and Sweetness, is the Lady-finger Grass, as I have before observed. Clover-Grass, indeed, is a full Bite, and produces a great deal of Milk; insomuch that an Acre of this, well planted, is reckoned to feed as many Cows as two or three of Meadow; but this has its Faults, for, at best, it makes but a coarse Butter and Cheese of a disagreeable Taste, and worse if it stands too long before it is fed; therefore it is best sown with Ray-grass and Trefoil, which will make a better Butter, and be a safer Feed than Clover alone. Lucern, also, will cause Abundance of Milk; but I am obliged to say it is a hoving rank Grass for Cows. *St. Foyne* and Trefoil, likewise, breed much

much Milk, but the former is not so proper to feed Cows in the Field, by Reason its succulent large Stalks are apt to bleed, and lose their Sap too much, when the latter will not, and is one of the best artificial Grasses for this Purpose, if fed young, else it is apt to cause a bitter Taste in the Butter. In Consideration of which bad Properties, some will mow these Grasses daily in the Summer, and give them the Cows under Cover, to make them lose their hoving and rank Quality in a great Degree, prevent the Cows trampling them with their Feet, and keep the Cattle from the Fatigue of Flies, and the scorching Heats of the Sun, as I every Summer do, for carrying on the Business of suckling Calves; and this we are the rather encouraged to do on another principal Account, which is to preserve their Feet sound; for, if the Cows suffer by long Drifts and fore Feet, they will give less Milk, though they feed in the best of Pasture; therefore I have known a Gentleman be at the Charge of Shoeing his Cows, even in the more softer Vale Ground.

Necessary Utensils. These being indispensably necessary in a Dairy, it is of Consequence to have them in the greatest Perfection. Of all Churns, there is none so good as the Barrel Sort, for Dispatch, Ease, and Profit; for some of these will churn forty or fifty Pounds at a Time by one Man's turning it, or sometimes two: I have one of the Firkin Size, that churns from one to two hundred Pounds, with Ease. Next to this Utensil, is wanted the square wooden Cooler, lined with Sheet-lead, and mostly at this Time of the Year used for setting Milk, instead of the old-fashioned Brass-pan, which gave the Milk a small Tang. In Summer-Time the Leads are accounted better than the shallow round Tubs, because of their great Coolness and smooth Sides, which in hot Weather raise much Cream, and for
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letting the under Skim-milk out at a Cork-hole as they lie. The earthen glazed Pans are also serviceable on this Account, and will answer the Purpose where Leads can't be afforded; but, in Winter, the Tubs or Kivers excel, as being warmer, and consequently raise most Cream. Cellars are best to keep Milk in, and that, under the Cover of a thatched Roof, is better than one of Tiles; because the former is warmer in Winter, and cooler in Summer, than the latter. The great oval or round Tub is constantly used in Summer, where there be a Number of Cows kept, to receive and cool the Milk, before it is put into the leaden Kivers, and then there will arise the more Cream. Others will first put in a little cold Water in each Lead in the Summer, and warm in Winter, and the Milk from the Cows on that, which will cause it to yield more Cream, keep it longer sweet, and prevent its Clouting or Roping. There are also several other Utensils belonging to the Dairy, as a Straining-sieve, Pails, Trenchers, Weights and Scales, Basket, Trays, and others well known to every Dairy-maid, and some Sort of Shop-keepers.

The Management of new and skim Milk. In Winter they let their Milk stand two Meals before they skim. In Summer, that which they set at Night, they skim next Morning, and so on gradually, according to the Season of the Year. If they keep above twelve Cows, they commonly churn three Times a Week in Summer: If under, twice a Week in Summer, and once in Winter. I know a Vale Farmer that keeps fourteen Cows, and yet churns but twice a Week in Summer, and that under the Disadvantage of having no Cellar; but then he is obliged to skim his Milk every twelve Hours, and just boil the Cream a Wallop or two to preserve it, for, without this Method, he could not keep it

two Days together, from a little Sowering another, after the Cows are all milked, will drip them over again, and put the Stroakings (which are little inferior to Cream) cold into the Cream-Pot, to keep the rest sweet and fresh. In Summer, wash out the Leads with cold Water, and give the milky Water to the Hogs. In Winter, do it with hot Water; but never employ a hand Brush, or hard Sand to scour them with, only with a Piece of Leather, or Wisp of Straw or Hay, rub them with Salt or soft Sand, or Wood-ashes.

To improve Cream. To do this, take a Pint, or more, of Stroakings, that may be got from six or eight Cows, and divide it into several Pans, or Leads, or Kivers; then pour into the same your new Milk, and it will increase your Quantity of Cream. About *Bristol* in the Winter-time, they boil their earthen Pans, and dry them by the Fire, to raise the more Cream by their Heat. Many, after the first Cream is taken off, will let the Milk remain in the Leads, Pans, or Tubs, for six or seven Hours, and then skim off another Cream; the first is to make prime Butter.

To keep Cream sweet in the hottest Seasons. In Summer, some are so curious, as just to boil the first Skimming of Cream, in order to make it serve, as a Security, to keep all the other raw Cream sweet, that is afterwards to be added to it, so that, if your Churning is twice a Week, there must be two Boilings of the first Cream.

A second Way, is to keep raw Cream in an earthen or leaden Pot, and that kept in cold Water, shifting it every Day into a fresh one; and this Practice may be carried on to Advantage, during the whole Summer. But, in Winter, twice Shifting in one Week will do for making good Butter.

A third Way, to keep Cream sweet, is to put a little Salt among the first, and the Cream of other Meals on that, which, with Stirring now and then to keep it from Clotting, will be a great Means to preserve it fresh and sweet.

To make Butter in a cold Dairy. When the Cream is ready, carefully strain it through a Cloth into the Barrel-Churn; and, as this Sort of Churn by a Handle and Spindle may be used with a more even and constant Motion than the beating upright Sort, be sure to turn it gently, for then the creamy fat Part will separate from the thin watery Part, and cause the Butter to come hard and stiff, whereby it will obtain a sweeter Taste, and keep longer; but, if it is turned too fast, and with uneven Motions, it will make the Cream ferment too much, and be all of a greasy bitter Nature: Again, if you cease your Turning but a few Minutes, the thick and thin Parts will unite, and be apt to join, and then the Labour must be renewed. If Cows are stale milched, the Butter is difficult to come, and so it is in extreme cold Weather. If the Cream swells and hoves in the Churn into a high Froth, then it will be some Time before it comes; therefore, in Winter, put some hot Water or hot Milk into it. Others will put a Half-Crown-piece into the Churn, or a pewter Spoon, to make the Butter come the sooner. But the common Way in Summer-time is, to put cold Water in, and fill the Churn with it, just before the Cream is strained into it, and in Winter as much warm Water. The first is to prevent Over-heating the Butter, which greatly damages it; and the latter, to take off the Chill, that otherwise would impede it. When the Butter is come, which you may know by its Quashing, turn something slower than you did, that it may the better gather, and then, before it is enough,

nough, it will be sometimes near Half an Hour ; then take it out with your Hand, knead it well, and mix beaten Salt regularly with it ; this must be carefully regarded, else the Butter-milk, Whey, and Salt will shew themselves in Strakes, that will soon corrupt and spoil the Butter.

To make Butter in a hot Dairy. There is more than one Way to do this : In two certain Counties, where I have travelled, they make almost all their fresh Butter, that they sell in their Markets, in the *hot Dairy*, as they there call it. One Way take as follows, *viz.* — They put their Milk as hot, and as soon as they can, from the Cows, into brass or earthen Pans, and let it stand twelve Hours ; then, with a steady Hand, lay Pan and Milk and all on an iron Frame, under which should be burning Charcoal, or Live-coals of Wood, whereof the ashen Sort is accounted best ; which are to heat the Milk and Cream, till it is scalding-hot, or that you can bear your Finger in it ; then take it off, and set it by twelve Hours more, when you are to skim off a clouted Cream very clean. This, with more, is to be put into a Barrel-churn, just rinsed before with cold Water in Summer, and hot in Winter, else the Cream will stick. Then churn away, and, in little more than Half an Hour, the Butter will come, and be very sweet for two or three Days, if you beat all the Butter-milk clean out of it. —

N. B. The hotter you put the Milk from the Cows into the Pans, the more Cream will arise ; and, if you use the earthen Sort, they must be first boiled, or heated before the Fire, in order to keep the glazy Part from cracking, which otherwise they are apt to do, and give the Butter a disagreeable earthy Taste.

A second Way is by putting Milk in a Pan over a few Embers, and, at twelve Hours End, to skim off a clouted Cream with the Hand, which, by being

put into a wooden Tray, or Bowl, may, by Motions of the Hand, be presently beat into Butter. Thus, while a Dish of Fish has been dressing, the Butter has been made for Sauce; and thus, by heating the Milk, the greatest Quantity of Cream is to be obtained, and the Butter-milk so sweet, as to serve for several Uses; but observe, that Coal or Turf-fires spoil the Sweetness of both Butter and Milk.

To make Whey Butter. This is done by setting the Whey from new Milk-curds in Tubs, Leads, or Pans, as they do Milk from the Cow, and, when it has stood long enough, there will be a Cream over it; which churn, and make Butter with it. But some, to improve it, will add some new Milk-cream to the Whey-cream, and then it will make Butter, that sells for about a Penny a Pound cheaper, than the better Sort. The remaining skimmed Whey they give to the Hogs; for Whey is said to fat a Hog, when it will starve a Dog; and Butter-milk to fat a Dog, and starve a Hog. — A certain Dairy-woman always used to boil her Whey-cream in a brass Kettle, and put it each Time into a Pot to other Parcels, and made it into Butter twice a Week: This Method makes such Butter keep almost a Week together, and not so rank, as that made with Boiling. Butter-milk, given to Store-pigs, will scour them, but it will not older Hogs.

To make Butter in Winter. Scald the Churn, and empty the Water, then directly heat your Cream, and put it in; churn away with a pretty quick Motion to keep the Heat on; and, if the Butter comes in very small Bits, as it sometimes will, little bigger than great Pins Heads, put a Pint of hot Water into it, and churn leisurely, and the Butter will gather, and come well.

Another Way. I was told, in *Suffolk*, to make Butter after a very particular Manner, thus: Put

as much Cream into an upright Churn, as you think will make six Pounds of Butter; set the Churn before a Fire, and stir well into it six Spoonfuls of Rennet; let it remain in this Posture an Hour and a Half without Stirring, turning the Sides of the Churn now and then to enjoy an equal Heat; at the End of that Time, churn away with the Mundle-stick, and, in about six Minutes, you will have a Butter; then let it stand a while, and it will gather; which take out, and wash, as usual. But this I never tried.

To prevent or lessen the rank Taste of Butter, made from Clover, Turneps, Leaves of Trees, and other strong Foods. As Milk is the most homogeneal and universal Diet to the Body of Man, the Enjoyment of it, in its purest Condition, ought to be endeavoured with our utmost Care. In the Year 1737, I observed, that the Generality of the People of *Bristol* and *Bedminster* are so nice in this important Article, that they refuse all Milk, they know is produced from the Food of Grains; and, when about *Michaelmas*-time, that the Leaves begin to fall, the Dairy-woman is obliged to manage after a different Manner, than she did all the Summer before: To do which, she leaves off making Butter in her cold Dairy, and then begins to make it in the hot Dairy, according to the aforesaid Method, in order to prevent an ill Taste in the Butter, that may arise from the Cows Eating Ash, or other Leaves, that then lie on the Ground; and this Way she continues all the Winter, and till they eat nothing but Meadow-grass again, that no ill Relish may accrue from Fodder, or otherwise. How excellent, then, must this hot Dairy prove to those, who have nothing but Clover, Lucern, and Trefoil-grasses, and Hay; or that feed their Cows on Turneps, Coleworts, Carrots, or Grains, and Fodder, all the Year; for, by this Means, the Rankness of their Milk, if not wholly

wholly taken off, is much abated. However, in next Month, I shall give you a Copy of a large Account, published by the *Royal Society*, of a Method, communicated to them, for feeding Cows after a most profitable Way; whereby those, who have a Conveniency for it, may make the sweetest Butter at the cheapest Rate, and the smallest Cow to return ten Pounds a Year, and that by feeding her with no other Food, than one Sort of artificial Grass, and the Hay made of the same after a peculiar Manner: Also how to pat Butter, and turn Salt-butter into fresh, and make it after several Ways, as they are at this Time practised by the nicest Dairy-farmers in the Vale of *Aylesbury*, and other Parts.

Why Making Butter and Cheese is more profitable, than Suckling Calves. This brings in Money without laying out any, furnishing, besides, skim Milk for Family Use, and wherewithal to feed Swine; whereas, in Suckling, there is a Charge, and Trouble of going to Market to buy Calves, and then no more Profit, than bare Suckling.

Cambridge-Butter. This Butter is deemed the best Sort of Salt Butter sold in *London*; and the Way of managing this and Cheese I shall give you, according to Mr. *Houghton's Dairy Housewife*. At *Over*, where they make the best Butter for the Colleges, seven Miles from *Cambridge*, they sell off their driest Cows, and buy in others, that will calve in each Winter-month; which as they are new-milched Beasts, they produce a yellow Butter, that they sell by only the Weight of sixteen Ounces to the Pound. In *April*, they go in natural Grass, and give about twelve Quarts each a Day; which Parcel, when skimmed, yields about a sixth Part, or four Pints of Cream, which will make almost two Pounds of Butter.

They churn twice or thrice a Week, and put the Cream

Cream into a clean earthen Pot every Morning, which keeps it from souring, and makes it the best of Butter, though not so much.

About Sun-rising, they put the Cream into a Barrel-churn, after they have milked their Cows; for it is a Proverb, *If the Cows be not milked by the Time the Herdsman blows his Horn, it spoils the Dairy-maid's Marriage*; and he blows about Sun-rising.

In a great Dairy, they sometimes put into a Churn, about the Bigness of a Barrel, twenty-two Gallons of Cream, which fills two Thirds of it. This, with the Labour of a lusty Man and Maid, comes to Butter in about an Hour's Time, more or less; in hot Weather it is soonest, in cold Weather the longest; but, if the Cold be much mended by the Fire, it changes the Butter in Taste, Colour, and Stiffness; but to be in a Room, a Yard and a half distant from the Fire, does well; but, in very cold Weather, they put boiling Water into the Churn, till it thoroughly heats it, and, that being taken out, they put in the Cream. These twenty-two Gallons, or 176 Pounds of Cream, yield about seventy Pounds of Butter.

Here some use the upright Sweep-churn; others use Barrel-churns, and reckon them best; and one, that keeps sixty Cows in *Denny*, a near Town, has a Barrel-churn, that holds an Hogshead.

When the Butter is come, it is taken out and washed, if for present Use, otherwise not; and, with a little fleeting Dish, drawn backwards and forwards in a Bowl, a little at a Time, to let out the Butter-milk; and, the cleaner that is got out, the better is the Butter: Then it is salted; and a Quart of Salt, which is about the fifteenth Part, will serve thirty Pounds of Butter; but some put more or less; and, when salted, it is drawn over again, with a fleeting Dish, once or twice; then weighed into Pounds, and rolled into long Rolls; then

then put into a Basket, and hung all Night in the Well, within a Yard, or four Feet of the Water; which will make it stiff.

A new Way to preserve Butter sweet and sound.
It is said, that the *Over Butter* will not keep so long as *Suffolk Butter*; but a famous Dairy-wife, that lived there, used to make her Butter into Balls of thirty or forty Pounds Weight, and salt it a little more, than for fresh Butter; and this she laid in the Middle of a Bin of Flour, and it would keep good all the Winter. Others salt it as usual, and put it into Pots, and cover it about two Inches high with good Brine; but this will not keep so well as the other. Others make a Brine so strong, that an Egg may swim in it, and therein put Pounds of fresh Butter, and it will preserve them from Rowing beyond Salting the Butter.

The Butter-milk is drank by some, but the Hogs have the Main of it; and, if it stands long, it will turn sour, and, in a Week's Time, from five or six Quarts, will arise a thick Skin at Top, as thick as one's Finger; and, under it, will be a very clear bluish Whey, and, at Bottom, a thick Curd, but not like Cheese-curd; it is knotty and very slippery. Of this Butter-milk some poor People make Cheese, but it is very tough, and must be eaten, while green or fresh: The Whey, that comes from it, is very thin, sour, and green, and the Hogs care but little for it.

But this sour Whey will take off Sun-burns, cleanse and smooth the Skin, and keep it from Tanning.

In *May, June, and July*, they chiefly make Cheese; that is, they milk the Cows half, which they use for Butter; the other Half, or Stroakings, they use for Cheese; and these Stroakings yield most Butter and most Cheese, and least Butter-milk or Whey.

In an indifferent Year, a good Cow will yield, at this Time, sixteen or eighteen Quarts a Day ; and, if the Weather be dripping, she will yield more, and then Butter is made longer.

Sweet and new Cream will make very pleasant Butter for present Spending ; but, if the Cream stands till it is sour, the Butter will be very good, and keep longer, if it be not over-heated in the Churn ; but, if it once turns bitter, it is good to spend it presently, for it will soon decay.

At the Fall of the Leaf, and in cold Weather, Cream will turn from sweet to bitter, and the Reason is generally said to be, because the Cattle eat the Leaves of Trees ; but a Friend of mine will not allow it, because it will be so in low Grounds, where there are no Trees, as well as Uplands, where there are ; but what the Reason should be is hard to know, till we have a good Theory of Taste, which I find hard to be got, and greatly wanting. The best Way, he says, to prevent this Bitterness, is by setting the Milk a less Time, and churning oftener ; but this will produce but a small Quantity, and it is best to sell and spend it new, and not to pack it in Firkins, for it will not sell in *London*, but the Traders are forced to ship it off, and send it elsewhere.

Some churn new Milk, which makes the best Butter, but it will not keep. I am told, that, if salt Butter be well washed, and then beaten up with new Milk, it will taste like fresh Butter.

The *Irish* rot their Butter, and, in hot Countries, they clarify it : The Taste of either pleases not those that do not imitate them ; notwithstanding, I have eat excellent *Irish* barrelled Butter.

Whey Butter. The Cream of Whey will not yield half so much Butter, as the Cream of Milk will : It never is so hard as that, nor keeps so long ;

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but, if used fresh, it is almost as good ; a great deal of this is sold in the Markets.

Wild Curds. From the Whey, if set on the Fire, will arise wild Curds by putting new Milk and four Butter-milk to it : When it is ready to boil, and when it rises, the Curds must be taken off with a Fleeting-dish or Skimmer, and then, with putting in more Milk and Butter-milk, more Curds will arise : Two Quarts of Milk, and as much Butter-milk, will serve for six Gallons of Whey. Good Butter-milk and the best Whey will fatten Hogs well.

C H A P. IX.

Of Hogs.

O*f Feeding Hogs.* The common and cheapest Way of bringing up Hogs of late is to drive them in this Month into the Clover-field every Morning with the Cows, and bring them Home at Night, where they should have Plenty of Whey or Skim-milk, Wash, Grains or Corn ; but seldom give them any Breakfast, lest they neglect Feeding on the Grass : However, this great Conveniency has one Inconveniency attending it, and that is, the Clover will tincture their Flesh with a yellow Colour, that never will be intirely altered on better Feeding. The same does some Sort of Wash, where they are fed and fatted on nothing else but that and Grains ; as many are, to the great Profit of the Owner, which, being not to a great Degree deprived of their Goodness, are mixed with very hot Wash of Spirits, of so strong a Nature as intirely fatts the Swine, both for Pork and Bacon in a little Time. Others buy their Wash of the Distil-

lers.

lers; and by mixing Bran, Pollard, or Grains with it, fat great Numbers, others will do this with the Offal of Slaughterhouses. But I knew a Tallow-Chandler, who sent his Greaves twenty Miles into the Country to feed his Swine with; that made such a Stench; as hardly could be borne by the Neighbourhood: How wholesome such Meat must be, may be easily judged. In my Opinion, Hogs, fed with Horse-flesh, are far preferable. So some will feed with Fish, who live by the Northern Sea, which undoubtedly gives an oily, unfavoury, unwholsome Quality to the Flesh. Others, again, will give the sweet Food of Carrots, Parsnips, Potatoes, Turneps, raw or boiled, and mixed with Pollard, Bran, Barley-meal, the Flour of *French* Wheat, Oatmeal, Grains, or Raspings of Bread, &c. or alone, as with Acorns, Beech-maste, Horse-beans, Pease, Oats, or its Meal, broken Barley, or its Meal, *French* Wheat or its Meal, Pollard wetted with warm Water. But Pollard, Starch, Whey, Skim-milk, Meals, and several other soft Foods, are indeed wholesome, and make a luscious white Flesh, but produce a loose Meat, which easily parts with its Fat in the boiling Pot, while the Bean, Pea, and other Corn make a close Bacon, and stiff Pork. I knew a Miller, whose constant Practice was to feed his Hogs half Way with wetted Bran, and then fed them on with a fine Pollard worth fourteen Pence the single Bushel, till they fattened and weighed forty Stone a-piece, and though the Flesh of them was looser than the Corn-fed Hogs, yet, by mixing a sufficient Quantity of Saltpetre among common Salt, it very much improved it both in Colour and Firmness. But the Flesh of such Hogs always weighs heavier than that fattened with Corn, and is generally whiter and sweeter; and it is for this Reason, that the Vale Men seldom fat a Hog with their Beans, but will give it a Cou-

ple of Bushels of fine Pollard at last, to take off any Rankness the Corn may leave.

Breeding of Pigs. Now you that have been such good Managers, as to have a Litter of Pigs last Month, may cheaply wean them in this, as being the prime Month in the Year for Whey, Skim-milk, and artificial and natural Grasses; and if to the Whey and Milk you add Pollard, or Bran, or Grains, it will make them grow faster; but nothing comes up to Kernel, for if a few Pease or Barley, or *French Wheat*, &c. is given them besides, it will make them grow to a good Stature, in half the Time as Whey or Skim-milk alone will. By this early Breeding, the Pigs will thrive a-pace, and come in for their Share of Stubbling, which sometimes, in a Shedding Year, will half fat them for Porkers; or prepare them for Baconers, by the Help of Beech or Oak-maste, which sometimes succeed the Harvest, and near fats them, while those Pigs, that were farrowed near Winter, will grow stunted, lean, and scabby, and never make good Hogs. Thus a Summer-bred Hog may very well come in for a Baconer, by *Candlemas* or *Lady-day* at furthest.

To cure a Sow whose Wound gangers after Spaying. Mix Tar, Turpentine, and Hogslard together, and, while they are boiling-hot, pour it into the Wound. Hogs-flesh and Horse-flesh you cannot scald, or put any Liquor too hot into their Wounds.

Worms in Hogs, and how to keep them in Health, when they are obliged to drink putrefied Water in dry Summers. These voracious Insects are often found in the Intrails of Hogs, occasioned by foul Feeding, and Drinking of nasty Waters, which in Ponds, in dry Summers, are generally loaded with *Animalcula*, that consequently poison the Blood of the Creature, and breed these Devourers. An Instance of this happened to a Barrow-Hog, that my Butcher bought

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bought out of a Farm-Yard, for twelve Shillings, about five Years ago, which he kept on good Pease, in order to fat him; but finding it eat some one Day, and none another, and got but little Flesh, thought it best to kill him, and then he found a Cluster of large-headed long Worms in a Gut, a little distant from the Maw; a Misfortune, he told me, was very common among Hogs; but is what mine are never troubled with, nor with the Garget or Measles, since I have given them the Powder of Crude Antimony, among their Meat, to the Quantity of as much as will lie on a Shilling, twice or thrice a Week, to each Hog, either when he goes about the Yard, or while he is fatting; and which will also procure him a good Stomach to his Food: Or you may give him the Powder of Madder, the same Quantity, four Times a Week, and it will cleanse his Blood, keep him in Health, and cause him an Appetite. It is reported, that, if Hogs are foul and measles, four Stillers Wash will cure them; but this I distrust: However, this is true that many of our Farmers, this Year, 1741, gave the Lee of Ashes among their Meat, as the best Thing they knew to prevent the Garget, Measles, &c.

C H A P. X.

Of Sheep.

O*F the Rot of Sheep.* The great Rot, in 1735, began chiefly about *Midsummer*, and continued, till *May* following, so general, that many Thousands of Sheep, in low and wet Grounds, died throughout *England*. The same I have to observe of the Summer 1738, which proved so wet, even from *April* to *November*, that it became almost as destructive

destructive a Rot as the other, with this Difference, that the Rot, in 1735, was a lean one, and this, in 1738, a fat one, because the former was sudden and violent, as the other was leisurely and slow. And though I have formerly made known a most famous antimoniackal Receipt to prevent the Rot, and even cure a Sheep that is but just touched with it, yet by Reason of the Difficulty there is of coming by the Regulus of Antimony, and the Dearness thereof, many have refused to try it : Since which I have been so happy, as to discover another that will infallibly answer the same Purpose, after much Study, Enquiry, and Traveling some Years.

An infallible Receipt to prevent the Rot. Put chopped Rue into a Pail of Water over Night, next Morning squeeze it out, and put in as much Salt into the same Liquor as will make an Egg swim : Of this give five Spoonfuls to a Sheep once in nine Days in the greatest Danger, in less, seldomer, according to Discretion, and let the Sheep go in the same Ground, be it ever so bad, and they will take no Harm ; you may depend on it.

Remarks on this Receipt. There is nothing, I believe in Husbandry, that meets with less Credulity of its Success, than a Remedy to prevent the Rot in Sheep, because there have been so many Compositions prescribed for it, that only answer their End in Part, or that be too chargeable, troublesome, or difficult to come at their Ingredients. And this has the rather happened, on account of the Diffidence that is natural to a Farmer, beyond most other Men, who having neither Time nor Money to expend in the Trial of new Projects, and being blinded by old Customs, the most of any People under the Heavens, are perfectly shy of new Inventions, though they appear ever so reasonable, for Fear of Imposition. Therefore the aforesaid Receipt was calculated for their plain Apprehension, Cheapness

of Ingredients, and Easiness of coming by, which, if any Thing will tempt to a Trial, this must; and then they will surely find the promised Success, which may be readily proved, by singling out two or three Sheep only, that a Shepherd is seldom at a Loss to know, before they come to an absolute Rot, and then let their Case prove the Thing: Till then, let every one suspend their Judgment, and regard the following Account.

In the great Rot that happened to Sheep in 1735, there were two Farmers who rented five hundred Pounds each a Year, and kept three hundred Sheep a-piece. Now both these had a considerable Part of their Grazing-Ground lay at the Foot of a spewy Hill, adjoining to a River. Both said they knew a Remedy to prevent it in the worst of Ground, and therefore did not fear it; the Consequence was that he, that made Use of my Receipt, saved all his Flock perfectly sound, the others all rotted and died, and so did all others about them. The Truth of which is ready to be attested, and if any think fit to enquire of both Farmers of the same, they may know where they live, on Application to me. If then the rest of *Great-Britain* and *Ireland* meet with the same Benefit, I hope they will do me that Justice, in Requital, as to send me authentic Accounts of the same, by Letter Post-paid, directed for Mr. *William Ellis*, to be left at Mr. *Osborne's* Bookseller, in *Gray's-Inn, London*. That I may hope for some Gratification from the Public, for openly making known so inestimable and plain a Remedy, that must be worth an hundred Pounds, even to some single Vale Farmers, who keep large Flocks, and seldom escape a Rot once in three Years; but, to the Nations in general, of immense Value. Good God! tho' Man, through Inconsideration, call many of thy Works mean, yet what Food do the meanest of them yield to Multitudes of thy

thy Creatures ! Surely it was a wise Thought of the great and learned Lord Bacon : *Whatever God thinks worthy of Essence, Man should think worthy of Science.*

The Cause of the Red-water. The Rot and the Red-water are certainly the two most universal and most fatal Distempers belonging to a Sheep ; and therefore I shall offer to your Consideration the following Reasons, how the Red-water is first bred, in order to prevent it ; and, if taken, some choice Receipts to cure it. In the West of *England*, they allow it to be bred by Change of Pasture, by the Worring of a Dog, by the Ewe's being beat down and bruised by a Ram, by Driving too far at a Time, and by the Inclemency of the Weather. Others are of Opinion, it commences by a certain Bladder of Water under the Tip of the Heart, which scalds and damages it in Time, and thereby spoils the whole Mass of Blood. To break this Bladder, they chace the Sheep every Morning, with the Dog, about the Fold or Pen, which makes them strain ; and so does the Fear. The Eye of a Sheep, that is near overcome with the Red-water, will appear red round the Inside ; the Belly will swag with Water, if tried ; and the Skin look of a reddish Colour : Therefore, as a Sheep's Blood, at this Time, is mostly Water, some are of Opinion, that Bleeding, in this Case, is Death. On which Account, the following Receipts were invented to supply it.

The Warwickshire Way of curing the Red-water. The Cure here is, to put as much Salt in half a Pint of Spring-water, as will make it of an urinal Taste ; and, when all is dissolved, they give it in a Horn to a Sheep, as soon as ever they find it begin to droop, which it commonly does a little before they die.

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Sheep half a Pint of warm Milk from the Cow, and it will vomit the Sheep; and so will the salt Water; and therein consists the Cure, as they say. Others will give a little Flour of Brimstone, mixed with Urine. Others, beaten Grains of Paradise, mixed with Treacle.

To cure Sheep-bowe in Clover, or Lucern, &c. In this Month is the chief Danger of the whole Year for hoving Sheep in Clover; therefore have a Remedy ready, because, by an expeditious Application of such, many have been saved. For, whether this Misfortune happens in Clover, Lucern, or by a fresh Bite of Turnep-leaves, especially on their second Sprouting, make Use of the following Medicine: In this Month, or next, gather Plantain-leaves, and boil them in Spring-water; which strain, and bottle up for Use. When there is Occasion, give four Spoonfuls to a Sheep, mixed at the same Time with a little Vinegar; and also just cut the Roof of the Mouth, rubbing a little Salt on the same: This is practised by one of our best Shepherds.

A second. Open the Vein, that runs down from the Eye of the Sheep.

A third. But, if the Case is desperate, then job a Penknife a little Way into the Paunch of the Sheep, between the Huckle-bone and the short Rib, and clap a Pitch-plaister on the Wound; or, if you apply nothing, it may do well.

Drying Ewes. When a Lamb is taken off an Ewe, for Sale or Weaning, and you have a Mind to dry the Ewe, rub her Bag with some of her Milk; then mix Oil of Turpentine with some Tar, and anoint her Udder with it: But, I should have said, let her first be milked by the Hand, at twenty-four Hours End, and then immediately use the Ointment, which will directly turn her Milk, and thereby prevent Damage; but, if you neglect some

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Remedy, it is a Chance if it do not garget. This same Mixture I use myself, and it is so powerful a Remedy in this Case, that it will answer, if applied to Mares, or any other Beast, for the like Reason.

Baiting Sheep. Now the Grass on Commons springs a-pace, and, generally, affords a good Bite; but, where a Common is not stinted, or the Number of Sheep limited, they are then apt to keep it always bare, and many Times obliged to go to Fold with half a Belliful, and then the Hunger, Rot, or other Misfortunes often ensue. For which Reason, a good Husbandman, who has inclosed Fields near a Common, will always be provided with Clover, or other artificial Grass, ready for supplying this Defect; and in this Month, after the Sheep have fed till about One or Two o'Clock, will take them off the Common, and *bait* them (as we call it) on such Grass, till they be drove to the Fold; by which Means they will dung and stale a great Quantity, always keep half fat, and be better enabled to withstand Distress; and for which Purpose I commonly sow Clover, or Thetches.

To make Ewes take Ram. In my next Monthly Book, I shall give you an Account how to suckle House-lambs, and supply the Markets all the Year with them, by three several efficacious Receipts, whose Ingredients will oblige the Ewes to take Ram at any Time.

To have fat Sheep and Beef at Harvest. The very Beginning of this Month, single out some of your old broken-mouthed Ewes, or Wethers, and put them into your Clover-field; or, if you have not this Conveniency, put them into your fallow Fields to fat against Harvest to serve your Reapers. This is a good Piece of Husbandry; for Beef, and all Meat, is generally sold dearer then, than at other Times; and, as the Men work hardest at that Time, they are in Course most hungry, and will with Pleasure

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eat fat Mutton, in any Shape of Dressing, especially in Pyes, in which this Meat, well seasoned, will keep some Time. It is likewise the Practice of some Farmers to fat a dry Cow for the same Purpose; and, if he cannot dispense with the whole Beast, a Neighbour will gladly come in for a cheap Share. In the dear Month of *May*, 1741, when fat Beef was so scarce it could be hardly got for Money, and it sold in *London* for Eight-pence a Pound, some Farmers bought Bulls, or old Cows, to fat thus against Harvest, lest they should be obliged to get further into the Butcher's Books, than they can out. I fattened three Ewes and a large Sow against Harvest, that did me great Service, in keeping off the extravagant Price of Butchers Meat.

Of Shearing Sheep. The latter Part of this Month, by some, is chosen for Washing and Shearing their Sheep; which is rather too early, and therefore seldom done, but on necessitous Accounts, as when fat Sheep are to be driven to *London*, or elsewhere on long Journeys; for, if their heavy Coats of Wool were to remain on at this Time of Year, by long Driving in sultry Weather, it likely might bring them under Surfeits, and kill many of them. Others will shear their fat Sheep, while they feed in their Meadows, as believing they will thrive the faster for it; for they can more boldly shear a fat Sheep than a lean one, because their being fleshy and in good Heart makes them able to resist those Wets and cold Winds, that would kill poor Sheep.

C H A P. XI.

Miscellaneous Matters in Husbandry, for the Month of May.

HOUGHING *Beans and Pease.* Now hough your Horse-beans and Field-pease, that were set and sowed in Ridge-lands, as many are between *Harrow* and *Acton*. The Beans in Rows at about eighteen Inches asunder, and at two Inches and a half Distance each Bean, were set by a small Dibber, that is made to enter the Ground so far and no farther, cross the Ridge-lands. Their Pease also they sow in Drills, made cross the Ridge-lands with a Hand-hough, at two or three Feet a-part, which are likewise to be houghed in this Month. Others set their Horse-beans, as above, in Broad-lands, as many are in their dry gravelly Loams between *Hempstead* and *Watford*, on one plowing up a Wheat or Barley-stubble. Some, again, will set them in this Manner, on new broken up Sward-ground, on one Plowing, to great Advantage; for, by this Method, the Roots of Beans and Pease are best shaded, and the Charge of Setting defrayed by the Seed that is saved. But no Way of Houghing comes up to the Horse-break, where it can be used, which, in this Month, is to be drawn between Rows of either the Broad, or Horse-bean, or Field-pease, or Kidney-bean; and then a Hand-hough immediately follows, to pull up the Mould closer to the Bean or Pea-roots, &c. than the Horse-break could. But, where these Operations are not performed, I know a Farmer, that makes Use of the common Foot-plough, who draws it between the Rows of the Union-blue, or Rouncival Grey-pea, which he sowed in Drills, at something above two Feet

Feet asunder, and it turned up the Mould on the Roots of each Row pretty well, but not so well as the double-breasted Foot-plough; then, as above, he made Use of the Hand-hough to perfect the rest.

Houghing with the Dutch Hough. But, besides supplying Houghing by one or other Sort of the Horse-breaks, now is the Month also to make Use of the Hand *Dutch Hough*, for its great Service in dispatching and cleaning a great deal of Ground, in a little Time, of Weeds, and keeping it fine and hollow. The Purpose of this Instrument is, to work between those Rows, or Drills of Wheat, Rye, Barley, Oats, Tares, Lentils, &c. when any of them are sown at ten, fourteen, or this Side twenty Inches Distance; for the Horse-break has not Room to be drawn between such narrow Rows. I know a Farmer that twice a Year employs no less than eight of this Sort of Houghs, to his great Advantage; and sows such Wheat, Rye, Barley, Oats, Tares, Lentils, &c. by the Three-wheel Drill-plough, and sows them closer, than he does Beans or Pease, on Purpose for Houghing between their Rows with these Hand-houghs.

The Benefit of houghing Beans. The Benefit of Houghing was more apparently seen this Year, than in many others, because the long, cold, dry Spring, and dry Summer, 1741, caused the Blossoms to dry and fall off, for Want of sufficient Moisture, and even killed many a Bean-stalk, after it had got Pods on. About *Pinner*, near *Harrow* in *Middlesex*, they were more than ordinary sensible of this. Those Horse-beans, that were drilled and houghed, were good Crops in general; but those, that were plowed in, or harrowed in, were, for the most Part, as bad. Here they sowed their Horse-beans in Drills, at two Feet asunder, which were houghed twice in all, for four Shillings an Acre;

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cre ; and one Man, in this Work, would hough over an Acre in one Day, for which he had two Shillings ; and the same, when he houghed them a second Time : However, by one Fault is known how to prevent another ; and they are now resolved to sow all their Beans in Drills, for the Future.

Of blooming Wheat. The Winter, 1733, was so mild, that Wheat grew all along very rank and long, till it shot into a small Ear, as it always does in this Condition : The same, when Wheat looks whey-coloured, or yellow-flagged, as it did all *May*, and till it shot, and after. Then it is a true Sign it will be small-eared ; and this last Sign being occasioned by Wets and Cold, as it happened all that *May*, and till about the Fourth of *June*, it was so ominous of a bad Blooming-time, that the Farmers would wager before-hand, the Wheat did not bloom well ; and it accordingly happened ; for the Bloom came out but slow, and in a small Quantity, and that was several Times washed off, which was a sure Token the Wheat-ear would not kern well, nor did it : Whereas, the Year before, the Bloom came on the Ear, as soon almost as the Flag burst, and was very thick on it, which brought on a plentiful Crop ; for, unless Wheat blooms well, it cannot kern well. In 1741, there was as fine a Bloom as ever was seen, from the first to the last, and, accordingly, a most plentiful Crop ensued ; which caused the Market to fall ten Shillings in five Bushels, in about one Month's Time, just before Harvest.

How a Barley-crop suffered by the Ignorance of a Ploughman. A Crop of Barley was sown in *March*, 1740-1, where a Turnep-crop had been just before eaten off a stiffish, moist, level Loam. As soon as the Ground was cleared of the Turneps, the Farmer laid fourteen Cart-loads of Dung on one Acre, which was spread, and ploughed in with the *Hertfordshire*

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fordshire Wheel Fallow-plough; then he harrowed all plain, and sowed and harrowed in his Barley. Now here was such a Mistake committed, as lost half the Crop; for the Ploughman, being a young Novice in the Art, ploughed the Sheep and Horse-dung in so deep, that the Roots of the Barley had little or no Benefit of them, because this stiff Ground turned up in large heavy Furrows, and easily buried the Dressing; so that, at the latter End of this Month, the Barley looked with such a sick, pale Countenance, as foretold there would not be above half a Crop, for Want of that Assistance, which a skilful Ploughman would have given it, by ploughing in the Dung more shallow. Or, if he had first hacked the Ground, then harrowed it plain, lain on his Dung, plowed it in shallow in Broad-lands, and then harrowed in his Barley, it might fully have answered the End; because the Ground, by this, would have been made fine and hollow, and the Dressing kept near enough the Surface, for the Roots of the Barley to strike easily into. Or if he had ploughed it the first Time shallow into Broad-lands, then harrowed, dunged, and ploughed it a second Time a little deeper, he would have turned up the Dung near the Top, and greatly improved the Crop: Though the most common Way is, to give such Ground only one Plowing, and harrow in the Barley-feed; then they spread their short rotten Dung on the Top, or fold on it, or lay twenty Bushels of Soot over each Acre; and, if Rain succeeds in Time, it commonly produces six, seven, or eight Quarters of Barley on an Acre.

A Barley-Crop lost by Sowing Mow-burned Seed.
An old Farmer near me committed this Mistake; rather than to buy good Seed, he made use of his own Mow-burned Barley-Seed, and sowed it in *March* all over a Nine-Acre Field whose Soil was a loamy Chalk; but, finding it, in *May* 1741, come up with
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a very weak Blade, foresaw it would prove a defective Crop, which to cure, he first turned his Store-Sheep in to eat it up, and, about the Eleventh of this Month, he was plowing the same, to sow it over again with better Seed. — Happy is he, who, by others Harm, learns to beware.

A poor Barley and Wheat Crop. By the great Frost of 1739, the Ground was made prodigious hollow, inasmuch that one Plowing, afterwards, did as much Good as two or three at other Times; and though a great deal of Land received the Benefit of being thus easily brought into a fine Tilth, yet it proved a Fault in many others; for it let in the Frost to the succeeding Crops of Wheat, and, where the Ground was not well manured with hot Dressing, the Crop suffered. On the Fourteenth of July 1741, I saw a Crop of Wheat and Barley grow together. The Reason was, that the Frost, getting into the Ground, so chilled the Roots of the Wheat, that the Owner thought to prevent its Damage by harrowing Barley-Seed in over all the Ground; but there proved neither a good Crop of Wheat nor Barley, because, the Earth being of the hurlucky Nature, or of a close whitish Loam, it was too hard to let in and cover Barley-feed enough for a Crop. Yet the very same Practice succeeded extremely well in many of the ridge half Acre Vale Lands the Spring before this, because this, being a black Mould, was so much shattered and loosened by the great Frost, as to let the Barley-Seed be freely harrowed in and covered; whereby an excellent Crop of Barley, with a Mixture of Wheat, was mowed off. But I remember one silly Gentleman lost a great deal by obliging his Servants to tread down the Barley to come at and reap the Wheat, and then to mow the Barley, whereas, had he mowed all together, he had acted like a true Farmer.

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turn Country, a Farmer having a Three-acre Field of Wheat come up very well on the ridge Part of two-bout Stitches, and not in the Thoroughs, the Weeds grew so thick, that almost choaked the Wheat. Upon this, the Farmer turned in sixty Sheep in this Month, even when the Wheat was upon the Spindle, and had not shot into Ear; the Sheep took their Paths along the Thoroughs, like so many discreet Weeders, and missed biting the Wheat for the Sake of the Weeds; by which they so cleared the Field, that he had a better Crop than his Neighbours, who, before this happened, were like to out-do him. — But this was a bold Venture, and such that few would run the Risque of, did not Necessity prove the Incentive.

The Benefit of dressing Land with Urine. This is allowed to be one of the best of Dressings for most Vegetables, if made use of at a right Time, and in a right Quantity. A Farmer found it so, when he used it so late as in this Month on his Wheat, which he sprinkled out of a Garden Watering-pot, over his Wheat, as it grew in two-bout Stitches; and for this, and other Purposes, he saved it in a Barrel which he used to carry into the Field in a Cart, and there drew it out into his tin Watering-pot. But another Farmer had a better Contrivance; he kept his Chamberlie in a great Oil Jar, that is to be bought at the Oil-Shops in *London*, for about four Shillings a-piece; when it was full, he put the Piss into a Barrel in a Cart, and, in *January, February, March, April, or May*, would let it out into a wooden long Trough, bored full of little Holes, that lay across the Arse of the Cart, by which the Piss would run gradually out over a great deal of Wheat in a little Time; and it was observed, that this Farmer had the best Wheat in the Country on his chalky Loams, near *Tring* in *Hertfordshire*. Another Trial was made by a Groom,
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who, by Way of Curiosity, had a Mind to try the Effect of Horse-piss, and therefore sprinkled it over some Wheat but once, that grew in two-bout Stitches near *Nettleden*, which caused it to come on so rank that they were forced to cut it down several Times, and at last it run so much into Straw, that there was hardly any Corn. Another Trial was made with Chamberlie, by a Gentleman, who strewed it over the Roots of a Wall-Fruit Tree to make it prolific, but instead of that it killed it; however, Part of the next Tree's extreme Roots having received some of the Piss, it caused it to flourish in a furious Manner, and bear more Fruit, than ever it did before. Another Proof of the good Effect of this was annually experienced by a Gardener, who, having but a little Spot of Ground, enjoyed the greatest Crops of Kitchen-Greens in all the Country about him, by the Help of Piss, which was his only Dressing; and which he every Year saved and sprinkled over all his Land, and it caused his Onions, in particular, to come early, and grow into very large Roots. Another Effect of Piss was on the Roots of a Vine, which growing at the Back-Door of an Ale-house, the Guests used to piss on the same, which produced such a Multitude of large Bunches of Grapes, that the like was seen no where else in the neighbouring Parts. But, by the Way, let me give this Item in the Use of Piss, that it is best made Use of when the Wheat has got a little Head, because, if it should burn the Roots, the Shade of its Head will help to recover them. In Grass Grounds, it should be sprinkled in *January* and *February*.

The great Benefit of dressing Ground with Dogs-Dung. At the Sign of the *Bell* at *Dagnal* in *Bedfordshire*, lives a Victualler, who owns about one Acre of Ground near his House in a common Field, whose Soil being a gravelly Loam, it has been sown

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Time out of Mind every Year, without making it fallow, as the rest of the Farmers do in the same Field, and so lose every third Year's Crop, which this Man enjoys by inclosing his Piece of Ground with moveable Hurdles, and dressing the same with Dogs-Dung, which is accounted the next best Dressing to Pigeons-Dung; and as he breaks Setting-dogs, and is a Game-keeper, he keeps such a Number of these Animals, as return him a considerable Quantity of this Dung every Year, which enables him to sow Horse-beans, Wheat, Barley, and Pease alternately: And this Year, 1741, he had one of the best Crops of Wheat, that succeeded his last Year's Bean-Crop. And what was very particular; when most Bean-Crops missed throughout the Nation in 1740, he had a most plentiful one on this dry gravelly Soil, and which I was an Eye-witness of. And thus I know a Gentleman, who keeps a large Pack of Hounds, have the greatest Crops of Grain, wherever he spreads their Dung.

Of the new invented round Wire-Worm Sieve. This is a very curious Machine lately invented, and is very much to the Honour of the ingenious Artist, whose Name I forbear to mention, as having no Leave for the same. It is about nine Feet long, large at one End, and smaller at the other, worked by two Men, one of which is employed by turning it with a Winch, or Handle, like a Grind-stone, and, while it is turning round, it is constantly supplied with more Corn out of a Loft by a Spout, which, by Means of this Worm-fashioned roundish Wire Screen, runs out in a fine clean Manner, leaving all, or most of the Seeds of Weeds, and light offal Kernels behind; and this it will not only perform exquisitely fine and bright by the Twist of its long Worm Shape, but it will likewise dispatch great Quantities in a little Time, to the more than ordinary Benefit of the Farmer; for, let his Wheat, or other Grain, be

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ever so good, yet every Husbandman knows, that if any Burrs, Crow-Needles, Cockle, Darnel, or other Trumpery, is mixed with it, it will meet with a Price accordingly at Market: However, it is too common a Misfortune, and which a Farmer is the more liable too, as he generally changes his Servants every Year; so that, if he had a good one this, he may have a bad one next, who knows not how rightly to use a Knee-fan, or Wind-fan, to throw Corn, or to sieve or clean it by the tall, standing, sloping Wire-screen; or who, through Laziness, will not fan it nor throw it, or sieve, or screen it often enough. All which ill Properties are here avoided; for this Screen alone, after the Corn has passed through the Cavin-sieve, and flung out of its Chaff, will so truly clean it, as to make it fit for the nicest Buyer. In short, here is more Labour saved, a great deal more done in a Day, with less Charge, and much cleaner, than Corn is done in the present common Way. The Reason of which is plainly demonstrated on Sight of its Working, when the Beholder may observe the Corn passing through the several Turnings and Worm-twinings of this round Wire-screen; in which, if the Seeds of Weeds, and light underline Corn, miss dropping through in one Part or Twining, they are forced through the next, or some other, before they get to the Screen's End. I have only to add, that this Screen will likewise, by its several violent Turnings and Tossings of Barley, exquisitely well break off the Ails of this Corn, beyond Treading and Thrashing it, which, according to the old Fashion, we are forced to do, before we can clean it of its Nuisance. This, therefore, is to give Notice, that I will furnish any Person with it, if, by a Letter, Post-paid, directed for me to be left at Mr. Osborne's, Bookseller, in Gray's-Inn, they will send me Encouragement for the same.

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A farther Account of Peat-Ashes. To what I have before wrote (at Page 68) on Peat-Ashes, I add, that between *Hempstead* and *Watford* in *Hertfordshire*, about the Year 1738, a low Meadow, that lies contiguous to the River's Side, was broke up, and a most excellent Peat discovered, not inferior (as is reported) to that of *Newbury* in *Berkshire*, because eight Bushels of these, which are equal to twelve common *Winchester* Bushels, are sufficient to manure one Acre of Corn-ground with; and all that Quantity costs but five Shillings and four Pence at eight Pence a Bushel, and it is said to do as much Service as twenty Bushels of Soot. A cheap Dressing indeed, thus to return great Crops, if the Season is kind, both of Corn and Grass, besides preventing the Damage of Insects. But I shall say no more of it, here, by Reason I shall give a long Detail of its great Virtues and Benefits to Farmers and Gardeners, in the Month of *July*; where I shall insert the Copy of a Letter, written to me by the Proprietor, setting forth Examples of its transcendent Qualities, for now the Mask is taken off it, which for some Years past has kept the Cheapness and Value of Peat-ashes in Disguise, for avaricious Ends.

To destroy the Potatoes as a Weed. Though this be a most useful Plant, yet when Wheat, or other Corn, succeeds a Crop of them, as is often done, they will rot the Weed, and damage much Corn, if they were not totally destroyed before its Sowing, which is hard to do; however, what was wanting then, may in a great Measure be supplied now, by the Weed-hook, which, if carefully employed, will kill them, for, if they are pretty high in their Haulm, they will bleed on Cutting, and die.

Dressing Land with old Thatch. This a Farmer did with what came off an old Barn, by spreading it over a gravelly loamy Field, immediately after he had fallowed it in Broad-Lands, where it did a great

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great deal of Good, by keeping in the Spirit of the Ground; afterwards he plowed it in on the first Stirre in Broad-lands again, and so on till he sowed the same Land with Wheat, for, tho' this is a tough Dressing at first, yet, by the short Nature of the Gravel, it will be soon reduced into a much shorter Body, and do considerable Service to the Wheat-Crop.

The Scarcity of Provision in 1740. The last Winter, 1740, and this Spring, 1741, in *Cheshire*, Hay was sold for Half-a-Guinea a hundred Weight; and as this County has not a great deal of plowed Land, Stover was so scarce, that five or six Cows have been seen to lie dead in a Farm-yard in a Morning. And Wheat, in *January*, was sold for twelve Shillings a Bushel, and Barley eight, so that the poor People, in many Places, would diligently attend a Neighbour's Brewing for the Grains to eat with Salt, which Poverty occasioned the Death of many. So in *Wales*, and *Devonshire*, &c. great Numbers of Horses, Cows, and other Cattle died for Want. The same Reason made Horses sell at a most low Rate in the North, and forced many Farmers, that never did before, to eat Barley-Bread, to sell the little Wheat they had, to pay their Rent; while some others, whose Land was of the stiff Sort, and lay sheltered from the North-Wind, got Abundance of Money. Yet Providence was so good, that on the twenty-third of *July*, 1741, Wheat, of the best old Sort, was sold in *Hempstead* Market, for four Shillings and six Pence a Bushel.

To prepare human Ordure for dressing Land. For Want of knowing how to manage this hot Dressing, it has discouraged many from using it on this Account; therefore, I shall here make known a Gentleman's Method in the Improvement of it. I think it was, in this Month, he had his House-of-Office emptied, and the Soil carried into a Hovel-place,

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to remain under Cover in a Heap, which as soon as done, he had it all covered with Mould, where it lay some Time, till the Dung got dry. Then he got more Mould, and Chalk, or Lime, and had it mixed altogether with the Shovel, and let it lie some Time, when he had it turned and mixed again, and, by this, he got it into a dry and almost powdered Body, fit to sow out of a Seed-cot; and, accordingly, he had it sowed over his Wheat in the Month of *January*, by a Man's Hand, as we do Soot out of a Seed-cot and it produced wonderful Crops. By this Method, the common Objection, that human Ordure, laid on Land, will breed Nettles, is proved fallacious, when it is laid on as it ought to be: Indeed, when it is put thick on Land as it comes out of the Sink, and no more done to it, I own it is apt to do it: But, when cured after this Example, it is one of the best of Dressings, both for Corn, as well as Grass-ground. But in Case there is a Necessity for using this most fertile Dressing on Grass-land, and the Owner has not Time to cure it, it may be done thus: A Farmer, in this Month, got it out of his Privy-house, by first mixing Straw with it, and then it would admit of shoveling and loading it into a Cart, which he drew into his Field, and laid it in Heaps; then with Three-tin Forks he spread it about, and let it lie till it was thoroughly dried. On this, he had a Gate bushed, which he drew with a Horse, and it so scratched about the powdered Dung, as to make it enter into the Roots of the Grass, which, by the Help of several succeeding Showers of Rain, produced a laid Crop in the Summer 1741. And it is this Dung, that is so much esteemed by Gardeners, that many of them prefer it to all others, for nourishing an Onion-Crop; and which, they say, makes the largest Roots of any Dung whatsoever. So, on Grass-ground, it produces the excellent Honey-Suckle

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Suckle Grass, which it will nourish and maintain several Years together, in plentiful Crops, as I have experienced.

A secure Way to get a good Crop of Clover-Seed.
About the very Beginning of this Month, shut up that Clover Field that you have been feeding, and design for Seed; for, by so doing, you may have your Clover-feed earlier than in the common Way, which will give you the better Opportunity to enjoy a large Seed, and get it in full ripe and dry: Whereas, if you stay till it is fit to mow for Hay, before you shut up the Field, the seedy Head of the Clover is generally so late ripe, that the Crop is often spoiled by Rains, or cannot be got dry, for Want of Heat enough in long Days. And indeed, this was the chief Reason, why so little Clover-feed could be got found in the Year 1739; for, when the Clover was to be mowed for Seed, a wet Season continued so long, that most of it was sprouted and spoiled in the Field; insomuch that good Clover-feed has remained dear ever since; and all, because they must needs go on in the old Way of mowing their Clover first for Hay, before they shut it up for Seed. I have convinced several of this egregious Error by Word of Mouth, but I hope I shall many more, by the Help of my public Pen, and, most of all, those who are to save their Crop of Clover-feed in inclosed Fields; because here they have not that Opportunity of getting it dry, so late in Summer as *September*, as they have, who mow it in open Fields, as most do in the West Country, from whence *London* is supplied with great Quantities of this Seed, which, for its great Service to the Farmer, is called *the Mother of Corn*; and therefore, without sowing this best of artificial Grass-feed, there is no such Thing as being a compleat Farmer in the Management of an inclosed

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inclosed Farm, where its Fields are kept under the Plough.

The Two-wheel Wood-chip Plough. This Plough, as I have not mentioned it before, I have thought it necessary to do it here, for its great Usefulness in ploughing wet or dry Ground in three or four Bout-lands; which it does the best of all others, because it has but one Mortise in the Share; and therefore is called by some the *Creeper-plough*, that does not gather up Dirt, and clog behind, like our Two-wheel *Hertfordshire* Plough; but works extreme well in all Weathers, when a Plough can be used, and is allowed to be the best for ploughing Land in three and four Bouts, which they do about *Pinnar*, *Rickmansworth*, *Chaffont*, and some other few Places; for this excellent Plough is not much known at present, and therefore not in much Use; but I would recommend it, as the best of Ploughs for this Sort of Work, for, if a Plough may be said to be serviceable both in Low and High-lands, this is that.

C H A P. XII.

Of Turneps; a farther Account of them

I N this Month, some of our Farmers sow Turneps for an early Crop; some sow them to draw and sell; others, that they may be able to fat off some of their Sheep betimes, and, by the same, prepare their Ground for Sowing Wheat, which, by such early Sowing and Feeding, is often made to turn to a very good Account; but then the Management must be accordingly. Now, to do this effectually, such Ground ought to be in great Heart to forward the Turnep-crop with Expedition, that such Turneps may be eaten off by *Albaltide*,
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low-tide, or sooner, and the same Ground sowed with that Golden Grain, Wheat: And, for this Purpose, it was the usual Practice of a Farmer near *Amerham*, to sow in this Month the Seed of the *Dutch* white flat Turnep, that, in favourable Seasons, would be fit to make Use of in *July*, *August*, or *September*. The next Sort, he sowed, was the Green Round; then the White Round; next the Red Round; and, last of all, the Tankard, or Sugar-loaf Turnep-seed, whose Turnep grows with great Part of their Roots above-ground; and therefore, in *December*, *January*, *February*, or *March*, the Sheep can easily come at them in snowy Seasons. In this Month, four Pounds of Turnep-seed should be sown on one Acre; because the Fly, being now as busy as at any Time, and having less Food, preys more furiously, than in the latter Season; for at *Midsummer* we sow a Pound less on that Quantity of Ground, and afterwards but two. If the Ground is hard, give your Harrows the Load of a large Pole; but, if fine, you cannot harrow the Seed in with too light a Harrow. A Farmer not being able to get Houghers in due Time, he, to prevent the Crop Setting, or, what we call, *Burning*, drew his Harrows over them three Times in a Month, with ten Days Intermision between each Time, and by this preserved his Crop in good Order, till he got Houghers. But this is better done by the Sheim, which is a triangular Instrument with several fixed iron Feet, or Houghs, in the same, as I shall describe hereafter. Turneps, tho' sown thick, never set sooner than three Weeks, but, after that Time, they will heat, and force one another to grow; and then, if they are let alone, will set, and have little or no Roots to any Advantage. But more of this in next Month; where I shall very much enlarge on the Propagation of this excellent Root, by giving the following Account of it, viz.

—Plough.

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—Ploughing for a Crop of Turneps. A second Way. A third Way. A fourth Way. Ploughing a wet Dung Piece of Ground the best Way, for a Crop of Turneps. Turneps got on a Fallow. An Oat-stubble ploughed for Turneps. A Pea-stubble ploughed for Turneps. Another Way. To prepare a Bean-stubble for Turneps. Plowing and Sowing Turnep-seed in Vale-grounds. Plowing and Sowing Turnep-seed in three or four Bout-lands. Sowing Turnep-seed in Drills. Sorts of Turneps, and their proper Soils. Of good and bad Turnep-seed. To prove the Goodness of Turnep-seed. Sowing Turnep-seeds. Houghing Turneps. The Way of saving a Crop of Turnep-seed. The Way of cleaning Turnep-seed. The Benefit of my Receipt for keeping off Crows, Rooks, and other Birds, from damaging the Turnep-seed Crop. Another Way to save a Crop of Turnep-seed. Ploughing up a Pea-stubble, for Sowing Turneps a third Way. And, in July, I shall present the World with an excellent Receipt for preventing the Fly's damaging young seedling Turneps, by a Powder mixed with the Seed three Days before Sowing, for Two-Pence an Acre Charge, as it is practised by some Farmers and Gardeners. And, in another Month, I shall insert an invaluable Receipt to keep off the Slug and Fly from Turneps, Cole, Weld, and many other Things; and that if it rains a Month together; for it is no Powder, and which even the Gardeners about London are, at this Time, Strangers to.

C H A P. XIII.

Of Making and Ripairing Roads.

THE present Turnpike Improvement of Roads; when it is honestly managed with good Judgment, is certainly of prodigious Service to this Nation

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tion in general, by contracting great Quantities of Heath, Donny, and other common Grounds, into a narrow Compass; saving Horse-flesh, Time, and Labour; travelling securely with Wheel-carriages; stopping stray Cattle, and, sometimes, a High-way Collector, with many other Conveniencies; most of which were enjoyed to great Advantage in the several Vales of *England*, where before, in some Winter-seasons, their Roads were formerly so bad, as even to prevent the Farmer's Carrying his Corn to an advantageous Market.

First Way to mend Roads. All Market-roads are to be kept in good Repair; and, to do this in the cheapest and best Manner, there are several Ways practised, according as the adjacent Country can furnish proper Materials. About a Mile from me, there were two different Roads made good, that, before, were in a very bad Condition, as being both of a loamy, clayey Nature, and lay almost flat; which, by standing Waters, and the often Tread of Cattle, became deep and miry: These Roads were undertaken to be repaired in this Month, that they might have the greatest Length of the Summer to dry and settle them. To this Purpose, there were several Teams invited (mine for one) from adjoining Parishes, by Way of Gift; some whereof came with their pecked shared Foot-ploughs, others with Wheel-ploughs; and began, in the Middle of the Road, to plow and ridge up one Thorough, or Furrow, as they do the half-acre Vale Ridge-lands; and here one Plough came after another, till the Ground was gathered up six or eight Times, whereby the highest Part was raised, at least, two Feet above the common Level of the Earth, for Waggon and other Carriages to travel dry in the wettest Times. But, as this had no other Amendment, than what the Plough gave, it did not last a great while in a good Condition.

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A second Way. The other Road was made thus: The Ground was ploughed in the Manner the last was, by being gradually gathered, or ridged up, but most of all in the middle Part of the Road, to a little more than the Breadth of a Waggon. On this, a Foundation of large Flint-stones was spread all over the same, and Chalk over all; by which the highest Part was raised two Feet above the common Level of the Ground: And, after some Rains had fell, the Horses and Waggons pressed it so tight, that it became like a Rock, but apt to be slippery in wet Weather: This was performed at the Charge of the Lord of the Mannor.

A third Way. Where a Road lies low, has any thing of a Fall with it, and a Water out of a Pond or River can be commanded to be ran over it; such a Road, when got muddy, may be presently washed clean by the Run of such Water; and so again, as often as it becomes foul, as it is now done in several Parts of *England*, where such a low hollow Road is kept with a sound, hard, clean Bottom, by only such timely Waterings. A clear Example of this may be seen a Mile or two off *Dorking* in *Surrey*, where formerly was one of the worst Roads in that Part of the County, but now one of the best; made so by the Help of an Engine, placed in a little House built on Purpose for it, which raises Water out of a low Ground, and carries it over this Road.

A fourth Way, is done by ploughing up the Ground into a very high Ridge-land, and then laying on a Covering of Chalk, and on that, a Coat of Gravel, which will become one of the best Roads, provided the Waters do not overflow it too soon: if they do, it will be poachy a long Time after. But, for a bye, narrow, high-ridge Road, I never saw a better than that gravelly one, situated between *Hendon-Church* and *Edgware* in *Middlesex*,
and

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and runs about three Miles in Length, on the Back of the great *London Road*.

A fifth Way. In low boggy Grounds, that lie very watery, where they can't be drained off, lay large Faggots of Bush, or Elm, one Layer of them cross another, and, if Occasion be, three, or more Feet high; and then with, or without, some Earth over all, coverall again with large Stones cross each other, two Feet thick, that have one Side pretty even: Then with, or without some Gravel over them, a good Road may be made, as it is lately done between *Aylesbury* and *Winslow*, in *Bucks*, where their sloughy Roads are now made very pleasant ones. Small Faggots of Bush, or other Wood, or Broom, or Whins, or even Bundles of Bean-straw, are the most ready Amendment, that can be made Use of, with, or without, Gravel over them; but Stones over them are best, in Case of sudden Damage, which often happens in Winter, by the Wash of Rains and the Gulling of Wheels; I say, these may be made very serviceable, by laying them cross a Rut, till better Materials can be had; but, if Faggots be laid long-ways, they do little Good. In short, where a Road lies wide and free of the Drip of Trees, it may be kept in good Repair, with Stones, Gravel, Chalk, Water, &c. at a small Charge: But where these Impediments are, the Owner, it is true, enjoys a quicker Growth, than ordinary, of his Trees, but, I am sure, it is almost a constant Damage to High-ways, where they are narrow; therefore it is a Pity there is not a Law to restrain their Growth so near High-ways. Likewise, where Hedges are suffered to stand twelve, fifteen, or twenty Years, for the Sake of obtaining a great deal of Wood, they do much Damage, not only by preventing the Drying of a narrow Road, but also by annoying Travellers, exposing them to the Loss of their Eyes, and causing Coaches, Waggon, and other

other loaded Carriages. to draw the heavier. Such Owners of Hedges should be obliged to trim them up, by cutting their Outsides in *May, June, or July*, with that we call in *Hertfordshire* a *Mawhawk*, which is a Piece of an old Scythe, fixed in a long Handle of Wood, that a Man may reach their Tops with, as he stands on the Ground.

To mend bye, narrow Lanes, or stotched Gate-ways in Vale-grounds. First throw of the loose Dirt, till you come to somewhat a harder Bottom; then lay Black-thorn Bushes, as a Foundation, and, on them, either Chalk, Hurlucky-stones, Sand-stones, Flints, or Gravel, and it will secure it many Years; and it is now the Way, that is made Use of, in the hither Part of the Vale of *Aylesbury*. And, for Gate-ways, if there is a Ditch on each Side, a hollow Tree, or four-square Boards, is proper to be laid along under the Bush and Stones, where an Arch of Brick or Stone cannot be afforded.

How a boggy Piece of Ground was mended. Mr. *Stoughton* says, that Sir *Christopher Wren*, being the King's Surveyor, found the Way next the *Privy-Garden*, between the two Gates at *Whitehall*, to be extreme bad, and it had baffled his Predecessors, by Means of being an ill Earth: Upon this, he dug it down two Feet, and there pitched and rammed it well with Stones; upon that he threw what came out, and pitched it again substantially, and it remains firm to this Day, only must be mended what the Coaches wear out. — The Road out of *White-chapel* was first made good by laying Trees a-crofs, and then Earth, which, with Ditches made on each Side, mended it for the present; and, to keep it so, they laid a high Row of large Gravel, which is forced in, and keeps that Part highest to throw off the Water; and the Dirt is pressed into the Ditches, which are every Year cleansed, and so likely to endure for ever.

C H A P. XIV.

Of Horses, Mares, and Colts,

GR *AZING* Cart and Plough-horses. In this Month, our Draught-horses are generally turned out to Grass, and, in our inclosed *Chilturn*-fields, we commonly feed them on Clover, which is reckoned a foul, rank Grass, in Comparison of some of the best natural Sort; but, as it is of a more warm and hearty Nature, it makes the Beast less liable to take Cold, and do his Work the better: Yet, at first, we are careful in turning out our Horses, by letting it be the Middle of the Day, before they go out of the Stable; and then, if the Weather is cold, or wetish, take them in every Night, till the Season becomes more agreeable; and then, about a Week after they have been out, some bleed them: But, for the most Part, we daily work our Horses, under the Feed of this Grass, or Lucern, by taking them up every Morning throughout the Summer, and give them a Bait of Corn and Chaff for two Hours before they are collared; and the same, after they come from Cart, or Plough, which fastens their flashy green Meat, and causes it to yield good Nourishment. In our *Chilturn* inclosed Fields, we fetter or logger every Horse, if we apprehend they will be unruly, and break out; but, where no Danger appears, they go loose and free. After the same Manner, we turn our Horses into a Field of green Thatches, where they will equally feed and thrive, as they do on Clover, or Lucern.

A second Way, is done by daily mowing and giving Clover, Thatches, or Lucern, on Racks; and, though it is not commonly practised, yet may *St. Foyne* be mowed green, and given to Advantage, in the same Manner. Others sow the three Grasses

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of Clover, Raygrafs, and Trefoil, altogether, and cut it for Cattle's eating it green in Racks, and they will not only keep Horses in Health, but fat them, or, at least, keep them in Flesh and in Heart under their Work, and, at the same Time, produce Abundance of Dung with the Help of Straw. In this Management many Farmers are not careful to bleed their working Horses above twice a Year, and that is commonly at *Christmas* and a little after their Going into, or being fed with artificial Grass in Racks, because, by their constant Working, the Grossness of this Feed is prevented breeding Yellows, Surfeits, Farcies, Staggers, and other Ails, which often happen by too great Plenty of Blood and too little Work. This Method of mowing Clover, or Thetches, and especially the latter, may be done in Vale-Ridge half-acre Lands, as well as in *Chilturn* inclosed Fields: And therefore, where convenient Ground lies near enough the Stable, that Farmer who neglects Sowing Thetches, or Clover, for this Purpose, in my Opinion, may be justly called a bad Husbandman.

A third Way, is done mostly in the Vale Country, where their Land lies chiefly in the common Field. There, for Want of Inclosure, they are forced to stake their Horses with Bassen Ropes, on their Grass Baulks, which generally lie as Head-lands to their plowed Grounds. But this Way has its bad as well as good Effects; for, by this Confinement, the Horses tread down Stale and Dung on, and spoil a great deal of Grass, which they refuse to eat, till they are brought on the same a second Time some Weeks after, that the Wash of Rains, and the Purity of the Air, may sufficiently sweeten, and return another good Bite. By this also the Horse is exposed to the Torment of the Bry-Fly, which most vehemently draws Blood, and torments the Creature, to the Hindrance of its Thriving; and

what is extreme dangerous, a Horse, in the Night may break loose, and do a great deal of Damage among common Field Corn. But Necessity has no Law: However, there is this Conveniency belonging to it, that, by such Staking, the Horses Dung and Stale are employed and treaded in as Dressing for enriching the same Ground against another Crop; and this Management is not only performed on Grass-Baulks, but also on Pieces of Thatches.

A fourth Way is performed by giving the yellow Turnep in the Manger, or letting them feed on them in the Field; but the former Way is mostly in Use, as they do in several Parts of *Suffolk* and *Norfolk*, where, if they are sown in well-dressed, rich, sandy Ground in *March* or *April*, may, perhaps, be ready to pull the latter End of this Month, or Beginning of next, and may be continued, by alternate Sowings of this Seed till *Michaelmas* following, which, in their sandy Land, becomes a pure, sweet, and very nourishing Root, as being somewhat of the cannotty Nature, for feeding and keeping the Horse in Flesh and Heart, insomuch that they will work very well under this Food, both at Cart and Plough, for it will supply the Place of both Oats and Hay. And it is likewise with this yellow Turnep, that they fat great Numbers of *Welch* and *Scotch* Runts every Year in these two Counties, both in the Cow-house and Field, and which, for its Sweetness, is often boiled in the Pot for Family Use: Therefore, whoever has a Mind to propagate this excellent Root, may be furnished with its Seed at the *Three Wheat-Sheaves* near *Billingsgate*, where are great Variety of most Seeds sold; but I have a great deal more to say on this Subject, when I write of Winter-keeping of Cart and Plough-Horses.

Grazing Saddle-Horses. Some are so curious in the Management of Saddle-Horses, before they are turned

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turned out to Grass, as to bleed them a Week before-hand, and the next Day give them a Drink made of Diapenta, as follows: Put two Spoonfuls of Diapenta Powder in a Pint of sweet Wine, or Ale, and brew them well together; or now and then give the Horse one Ounce of this Powder among some Manger-meat. It takes away all infectious Sickness, and creates an Appetite. At the Apothecaries, they sell it for two Pence an Ounce. A Day or two following, begin to lessen his Cloaths by Degrees before you turn him out to Grass, which should not be till the fifteenth Day, for by so doing, and not currying him, the Dust will fill the Pores of the Skin, and prevent his catching Cold. Let it be in the Middle of the Day when you turn him into the Field. And about the twentieth of *August* take the Horse up, for then the Grass begins to be raw and phlegmatic. Then, two or three Days after, bleed and drench him, to prevent Distempers which may arise from the Gall, Spleen, and Rankness of Blood; but others say, Never purge a Horse just taken from Grass, for that it dissolves and loosens some tender Fat or Humours which will fall into the Legs or Heels, so that the Horse rarely stands dry in the Winter after; but, after six Days, you may bleed him under a Quart, and at Night give him the following Anniseed Cordial, which is a gentle Opener: — Boil half a Pound of Anniseeds, in a Quart or two of Ale; pour it upon half a Pound of Honey into a Bowl, brew it till Blood-warm, and give it in a Horn, Seeds and all; then feed as usual; give warm Water that Night, and next Morning cloath him: A Mash will do well the same Night. But thick-skinned Horses may be kept out all the Year, if they are allowed an open sheltered Place to feed on Hay between Whiles, and sometimes on Corn, that they may go out and in at Pleasure. An Example of this may be seen in *Great Gaddefden Mash*, where

a considerable Number of fine bred Horses are constantly kept; and thus the Saddle-breed may be kept to hunt and labour, much better than in a confined Place; for, indeed, a Stable is but a Sort of Prison to this useful Animal, whose fleshy Grass-diet is, by this Means, bound in, and made to produce good Nourishment, his Limbs kept limber, his Hooves cool and moist, his Wind sound, and the whole Horse preserved to a great Age. A certain Gentleman, that lives about four Miles from me, had a Saddle-Horse with such greasy Heels, that he was declared incurable, which obliged him to keep the Beast all the Year out at Grass in the open Air, only, in snowy Seasons, he would give him some Hay, and now and then some Corn, which, with what Grass he could get, enabled him to carry his Master whenever he wanted him, and this for many Years, till at last the Horse got intirely cured. Some, again, make it a standing Rule to bleed a Horse after he has been a Week at Grass by taking him into the Stable in the Morning, and after the Vein is pinned up, to let him stand till the Cool of the Evening, before he is turned out, in order to prevent the Staggers, or other Distempers which might otherwise breed from a rank Blood and holding his Head downwards.

The Shapes and Marks of a good Cart-Horse. He should have a thick Shoulder, and a broad Chest overladen with Flesh, hanging forward, and heavily projecting over his Knees and Feet, a short Back, short Joints, flat-legged, full-eyed, and wide Nostrils, with a wide Mouth, and round Buttocks. Of such, a Team should be composed of one Height.

The Shapes and Marks of a good Saddle-Horse. He should have the Eyes and Joints of an Ox, the Strength and Foot of a Mule, the Hooves and Thighs of an Ass, the Throat and Neck of a Wolf, the Ear and Tail of a Fox, the Boldness of a Lion

the Quick-sightedness of a Serpent, and the Lightness and Nimbleness of a Hare : A high Pace, a deliberate Trot, a pleasant Gallop, a swift running or rebounding Leap, and quick in Hand. Or take it thus : The Hoof should be narrow and black, his Pasterns straight and upright, Fetlock short, Legs straight and flat, Knees long, lean, and round, Ears long and sharp, Sides and Ribs bearing out, and close shut at the Huckle-bone, Neck long and reared, wide-jawed, Breast large and round, Forehead lean and large, Withers sharp and pointed, Back short, Rump round, plain, and broad, a large Space between his Buttocks, or what is called *wide-gascoigned*, and his Yard and Stones small. In short, that Saddle-Horse, which has thin Shoulders and a flat Chest, with his Fore-feet standing boldly forwards and even, his Neck rising semicircular from the Point of those thin Shoulders to his Head, with the before-mentioned Marks, may be justly said to have a light Fore-hand, and is a right useful Horse for a Saddle. To which I add, that a crooked or low-backed Horse, with thin Gascoigns, is, commonly, not only weak, but too often proves unhealthful either for Cart or Saddle.

The Description of a good Stallion. Their Improvement, of late Years, has been so much endeavoured by the Breed of the *Turkish, Spanish, Barbary, German, Hungarian, Neapolitan, Sardinian, Danish, Swedish*, and *Flanders* Sort, that a true *English* Horse is hard to be found. For it is certain, that the *English* Mare's, Food and Climate gives a considerable Advantage to the foreign Blood, as well as that to her ; so that in *Northampton, Leicesters, Yorkshire*, and other Northern Counties, the best Saddle and Cart-Horses are now bred, as being Countries which abound in vast Tracts of cheap Land, and where they are most careful in their Breed. The *Danish* and large *Flanders* Horses
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produce a valuable Draught Sort, and particularly the former, who is a hardy, handsome, short-jointed, and very strong Horse, excelling for the Collar and Harness, as much as the *Turkish*, *Spanish*, and *Barbary* do for the Saddle. On the Choice of a Stallion, depends a good Issue; of this take Care, for the Parents Distempers are generally hereditary. I have heard of some Owners so knavish, as to use a blind Stallion to increase Custom; or because the Horse is a fine bred one. A Horse is fit to cover Mares at four Years old, and will hold till he is ten, twenty, or longer, as he is in Goodness, and the Owner is prudent in the Management of him. A Stallion, that was allowed to cover six or eight Mares in a Year, has been found heartier at thirty, than another at twenty Years old, who received all the Mares that came. For it is by the Means of an old, weak Stallion, that so many Horses lose their Eyes, the common Allowance being but sixteen Mares in a Season. Their blind Colours are reputed to be a very dark Grey, the Flea-bitten, White-spotted, Peach-blossom, and Roan; Black the strongest, and White the weakest Colours. A Horse is at his full Growth at seven, and a Mare five Years old. A Grass-feed is best for a Stallion, because he will be in less Danger of breaking his Wind on that, than on dry Meat. Some are of Opinion, that a Stallion should never be under five, nor above fourteen Years of Age. If he serves only seven or eight Mares in a Season, he will work the rest of the Year after, and last six or seven Years; but, if kept constantly Abroad with them, he will last but three well. To this I shall only add, what a chief Groom told me, whose Master keeps the *Danish* Breed for his Coach and Cart: The *Danish* Horse, he says, is a black, beautiful, middle-sized, nimble Horse, for the Coach; requires to have a great deal of Flesh on his Back, or else he will not work

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work to the Purpose; nor will he, at any Time, bear a Whip, for, if it is much used on him, he will refuse Drawing, and, at best, will not stand to his Collar in Case of Necessity, like a true bred *English Horse*.

To make a barren Mare take Horse. Stamp a good Handful of Leeks, with six Spoonfuls of Wine, and a little Powder of Cantharides, which strain through a Cloth with Water, enough to serve her twice, to be put into her Nature by a Clyster-pipe made for that Purpose; then, at three Days End, offer her the Horse, and, if he covers her, wash her Nature with cold Water twice together.

A second Way. Take a little Quantity of Nitrum, Sparrows-dung, and Turpentine wrought together, and make like a Suppository, which put into Nature, and it will do.

A third. Give two Quarts of Hempseed with Oats, Night and Morning, for eight Days before.

A fourth. Boil good Store of the Herb Agnus in her Water.

A fifth. In case you have any particular Opportunity of a fine Stallion, and your Mare is not naturally disposed to receive him, or will not stand to be covered, then give her a Drink of clarified Honey and new Milk, mixed together, which as soon as done, pat her Hind-part with a Bunch of Nettles, and immediately after offer her the Horse, whom she will readily receive.

The Management of a breeding Mare, and her Foal. A Mare should be three Years old before she takes Horse, and then she will hold it to ten well, or worse till twenty. Some will breed every Year; some again every second; others will let two Years pass between. The Time of taking Horse, that the Mare may foal at Grass, is from the latter End of May, to the End of July, for she goes eleven Months and nine Days, and so many more as she

is Years old above eleven Months. It is a common Maxim, that a Mare should never take Horse, while she suckles her Foal. Some bring an ordinary Stone-Horse first to one Side of the Pails, Rails, or other such Place abroad, to woo and try the Mare, and, when she is perceived to stand the Horse, the true Stallion is brought out, and covers her twice or thrice, for which Purpose the Horse should not drink his Fill over Night, lest he break his Wind; others will let her take the same Horse the next Morning, and some the Morning following that. After Covering, lead the Mare into a Pond up to her Middle, and let her drink but little; from thence have her into the Stable, and keep her out of Hearing of the Horse. Others, more curious, will make a Place in the Stable for the Stallion to put his Head through, and, when they bring the Mare to him, they can know if she is prompt. They also observe to throw a Pail of Water on her Hind-part, as soon as the Covering is over, to restringe her Parts, as we do to our Hogs and Cows. Others will directly ride her down Hill, or on plain Ground, for Half an Hour. But these are not quite so right, as those who bleed her just before she is horsed (as I shall by and by further observe) and ride her as soon as she is pinned up. As to our Cart-breed, when they think the Mare will abide the Horse without Kicking him, they bring the Stallion and Cover in Hand, and in a Month's Time it may be known whether she stands her Horsing; if not, have her to Horse again. The most dangerous Time for the Cart-sort is, when the Mare is quick about *Michaelmas*, for then a small Strain makes her cast her Colt; but afterwards, with Care, there is no great Danger, which makes them work a Mare sometimes till she foals in her Harness; but this is carrying the Matter too far; however, they may guess within three or four Days

Days of her Foaling, by the Wax at the End of her Teats; and, that she may have Milk enough, some put her to Grass, a Fortnight, or more, before she foals. Weaning Colts are ordered variously; some Farmers wean at *Michaelmas* for their own Use, saying, Longer makes the Mare faint, and the Colt little the better; besides which, it enables the Mare to take Horse the sooner next Year, and prevents her casting her Foal: But, if the Colt is for Sale, in some Parts, they let them suck till *Martinmas*, which is the eleventh of *November*, as they do in *Warwickshire*, for selling their Colts at *Rugby-Fair*, where many are sold on this Day, though it is possible to wean a Colt at a Month old; but then it must have Milk twice a Day given it in a Bowl with soaked Oats besides, till ten Weeks old, and then they commonly give it Whey twice a Day, or oftener, at Grass. The first Winter they must be maintained with Hay and Oats twice a Day. The next Winter they will live on Straw, like a Horse; but they should never be backed till three Years old, nor drawn till two; though a Colt is more tender at three than two, because it then sheds its Grinders. Others won't wean a Colt till *February* following, and then take them out of Hearing of their Dams. Colts are not cut till about a Year old, but some let them alone till two, three, four, or five. In the North, they sometimes spay a Mare at a Month old, and then they become larger and tougher than a Gelding; but their speedy Growth is apt to make them over-run in the Joints, and be weaker in them Parts, than if they were never spayed. Some are so curious in the Management of their Colts, that they always give them two Purges, and a Cordial-drink, upon their taking them into the Stable for good, to kill Worms, and prepare their Bodies the better for House-feeding. The first Foals are commonly small and puny. A full aged Mare breeds the strongest Colts; and an old

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Stallion

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Stallion may get as stout Colts, as a younger Horse. In this Month, get your Cart-mares leaped.

A further Account of the breeding Mare. The *English* Mare is allowed the best of any to breed by, and, by some, thought fitter at four, than three Years old; for that, after ten, she declines. Before Covering, let her be well fed in the Stable for six Weeks, and, if you would have her take sure, bleed her five Days before she takes Horse; then tie her to a Post Abroad, and bring her out a Jade Stone-horse to dally and provoke her; after which, in a Morning fasting, let the true Stallion cover her: Then throw a Pail of Water on her Hind-part, and take her out of Hearing of the Horse, but not to eat nor drink for five Hours after; then give her a Mash, and, after that, Water with Bran in it; for, in this Case, it is necessary to feed her as sparingly, after she has taken Horse, as you did plentifully before. Her Signs of Standing are, a good Stomach, not Neighing after a Horse, pisses not often, opens and shuts not her Shape frequently, nor her Shape grow gaunt after it, nor her Hair sleek. Others will put a Mare and a Horse together three or four Nights, and take him away every Morning to feed him well all Day, but the Mare sparingly. Then keep the Mare in the House a Month, before she is turned out to Grass, and taken up at *Michaelmas*. If she cannot foal, give her the Quantity of a Walnut of Madder-root Powder, dissolved in a Pint of warm Ale; it is ground, and sold by the Druggist; and, if she does not void her Secundine, put a Handful of Fennel-seeds into a Pint of Strong Beer, and boil them with a fourth Part of Sweet-oil; pour this into her Nostrils lukewarm, and stop them for some Time. When she has foaled, milk her before the Colt sucks; and, if her Bag is hard, boil some Lavender and Spike-leaves in her Milk, and with it chafe the Part warm. Hot Water must be mixed with
a little

a little Bran, and Mash given her. At a Month's End give her a Mash with Flour of Brimstone and Savin in it; it will do the Colt Good; then work her, but do not let the Colt suck when she is hot. Some say, Winter Foaling is bad, because there is no Grass: Others, that it is best; because, if the Mare is kept in a warm Stable, and well, the Milk is better, and will make a larger and tamer Colt. To prove if a Mare is with Foal, pour a Spoonful of cold Water, or Vinegar, into her Ear, and, if she only shakes her Head, it is a Sign she is with Foal; but, if she shakes Body and all, it is a Sign she is not. If she is subject to lose the Foal, give her a Mash of Malt now and then; if she has lost it, boil Mugwort in a Quart of Brine, and give the Liquor. Always set down the Day of Horfing, that you may the better watch her Foaling, and be the readier to assist with Medicine and Hand, if Occasion require. Then, to make her foal, give her same Polypody in a Pint of warm Ale. When foaled, give her a Mash, three Days together, of three Pints of Meal in warm Water, into which put a Handful of Salt; and then, if the Weather is seasonable, she and her Colt may go to Grass. Some, indiscreetly, work a Mare in a Week's Time after Foaling; but, if you will have the Mare and Colt improve, let it be a Month first. After the Colt has sucked a whole Winter, its Mouth will grow hard; then put it into a Stable, without Tying, well littered, and fed with Oats, Bran, and good Hay; but harder Meat than this it should not eat, lest it strain its Eye-strings, and blind it. This Way of Weaning makes stronger Horses by far, than those weaned at Grass. A Horse is not fit for much Fatigue, till after he has cut his Tusshes. I shall conclude this Article with the following Hints: That, whereas it is too common a Fault, with the *English*, to break their Colts too young, before their

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Joints and Sinews are well knit, their Hooves tough, their Eye-sight good, and their Chine full strong, which often is the Occasion of Blindness; brittle-hooved, weak-backed, shackle-hammed, full of Windgalls and Splints; and thus a Horse becomes old and stiff at ten Years of Age. On the contrary, if he is broke late, at three or four Years old, he will last a good Horse till Twenty-five. This is a Misfortune, they say, is generally seen in the *Spanish* Breed, whose Country, being open, obliges them to take up their Horses too young; which, with us, may be prevented by our inclosed Grounds, and, by a right Management, have the best of Horses, than none breed, but ourselves; because, in other Climates, they degenerate, and which will always occasion a good Market for ours, in foreign Parts.

The particular Management of a certain Gentleman in the Breed of Race-horses. This Gentleman keeps a considerable Number of the Race-breed, and endeavours, all he can, to make his Mares bring the right Sort; and, to cause them to stand to their Horfing, he always bleeds, and throws Water on the Mare, as soon as horfed: But, when his Groom has the sole Management of the Affair, he strikes the Mare first with his Flegme without a Cord, and lets her be, directly horfed; then he cords, till she has bled enough; for, if he struck her after Horfing, it might fright her, and spoil the Intention, as it happened to the same Gentleman in another Way; and that was, when he had several Mares horfed in one Day, he put all of them together in one close warm Stable, which prevented most of their Standing to their Horfing; for here they dallied and provoked one another, almost as if a Stallion had been among them. But, since that, he has learned better, and puts each Mare in a Stable by herself till the Evening, and then turns them out in different Fields; which cools her Body, and keeps them

them quiet; which is better than Turning her out in the Day-time, for then she might see, and be more liable to hear others. It was this same Gentleman, that had got a Receipt to make a Drink, that would cause a Mare to take Horse, and, by other Directions, to stand to it: But, after several Trials, it was proved not to answer; and then it was laid aside. Now, in order to have stronger Colts, than his Neighbours, he lets some of his Mares be horsed in *December, January, February, or March*, that, by such forward Horsing, the Colts may be the better enabled to run a Match with Colts of the same Number of Years; by which there may a considerable Advantage accrue to the Owner: For, although the Years of their Age may be reckoned alike, yet there may be half a Year's Difference by the forward Horsing; besides which, as such forward Colts are kept in the Stable, on Milk produced from Hay, Corn, and Mash,es, such Management must still add to the Strength of the Beast, by the more nourishing Nature of such Milk, than that produced by Grass.

To preserve Colts, when the Mare dies in Foaling. This often happens, and then, without good Management, the Colt dies also; therefore one, over nice, used to prepare Cows Milk, sugaring it, and heating it over the Fire; but this did not answer, till the following Method was made Use of, *viz.* By milking a Cow into a Bowl, and then putting a Finger immediately into the Colt's Mouth, and forcing its Chops into the Milk, it would suck it; and go on, till it would drink the Milk of itself, and be nourished wholly by it, till it would eat Hay and Corn. It is said, the *Arabs* generally let their Fleet-bred Colts suck Camels, because these Creatures, being of a greater Bulk than Mares, give the greater Quantity of Milk, which, in Course, brings on

on a speedier and stronger Growth ; for, whether Camel's, or Mare's Milk, it is all one to the Colt.

The Cause of Blindness in Horses. There are several Incidents, that may occasion this Misfortune : First, hereditary, by Means of a blind Sire. Secondly, by the Stallion's Leaping too many Mares in one Day ; for it is such an one, that not only gets weak-eyed Colts, that soon become blind, but also unhealthy Jades. In *Shropshire*, one Stallion leaped fourteen Mares in one Day, as I was credibly informed by a Nobleman's Pad-groom, and only the last proved with Foal. One of this Sort fell to my Share at *Dunstable-Fair*, in 1739, where I bought, I thought, a very promising Mare three Years old, and had a good Account of the Sire and Dam, she came of ; for she was bred but at a Village near *Leighton-Buzzard*, and had the Marks of a good Creature. But I was deceived ; for her Eyes began to fail at four, and she proved not only a Jade in the Collar, but a most stubborn, unlucky Bitch besides. If the Boy struck her at Plough, she would answer it every Time, and give a vehement Strike out, insomuch that I was forced to have Trace-ropes made on Purpose to hook to the Collar, that the Boy need not go near her Hind-legs ; and, in the Team, if she was much whipped, she would sit on her Arse, and defy any such Remedy. In short, after Keeping her about a Year, I luckily got a Swap at the same Fair ; and thus as she came, she went : However, I afterwards told the Buyer of her Kicking, to which he slightly answered, He must take the more Care of her. *Thirdly*, By feeding indiscreetly Colts too soon with hard Corn. *Fourthly*, By working them too soon and too hard ; which is a Fault, we Farmers are too commonly guilty of ; for to work Colts at two Years old, against aged franch Horses, is certainly the Cause that many fall blind, and become weak-backed and shackle-hamned.

Fifthly,

Fifthly, By a Horse's holding down his Head for a considerable Time together, which sometimes brings a creamy Humour into one, or both Eyes. I had a Horse, that always suffered at Grass this Way, till he lost one Eye intirely. *Sixthly*, By frequent and violent Purgings, that not only endanger his Eyes, but his Life too. *Seventhly*, By taking a Horse off a plentiful Living to Scarcity, and then it is, that his Eyes sink. So a Horse, when he is hard rid on poor Feed, is apt to suffer by the Consumption of his Eyes, for Want of a due Nourishment from his Blood.

Warranting a Horse. By Custom, a Jockey is to warrant a Horse, when sold, against Glanders, or other Unsoundness, hot or cold; but not against those Infirmities that may be seen: In which Case, the Buyer is to re-deliver the Horse in nine Days Time, and have his Money again, or else the Law will oblige him to it, as was, by a particular Case, a few Years ago, proved at *Hertford Affizes*; where the Buyer recovered his principal Money, with Damage and Costs, for the Sale of a foundered Gelding, warranted sound.

C H A P. XV.

Of Trees and Insectss.

TO improve the Cherry-tree. If, in the last Month, you have not drawn the Point of the Knife down the outward Rind of standard Cherry-trees, neglect it no longer, than the very Beginning of this; and then it must be done as shallow as possible, that only the very outward Bark may receive the Cut, lest, otherwise, the Sap and Gum be discharged by the Slit in too free a Manner; for, if this Operation is not done, this Hoop-bark will certainly

tainly impede the Growth of the Tree's Bulk. Mr. Laurence says, that, by this very Means, a Cherry-tree will grow bigger in one Year, than, if neglected, in fifteen: I have Hundreds of young Trees, that I, every Year, cut the Bark off.

Several Remedies for the Blights of Trees. Now look to your Standard Fruit-trees, this being commonly the most dangerous Time for the first Breed of Insects on them, who do a great deal of Mischief, especially in dry Seasons; for, when this happens, as it did in the Year 1736, a great deal of Fruit is generally destroyed. In this Case, therefore, use these Remedies: Burn Horse-litter, or other Straw, under your Trees; or else, with a Dutch Squirt, throw a good Quantity of Water on them; or carry up some Pails of Water, and throw over their Tops, and it will secure your delicate May Duke Cherries in particular; which as they seldom grow on a very large Tree, it is the easier done. All this I have known to succeed to Admiration; for, about the latter End of this Month, an Insect seldom, or never, misses attacking our green Cherries with so much Diligence and Fury, as to spoil great Numbers of them, by eating into their very Stone; and, because of this hollow Operation, we call them *Ladle-men*, or the Green Fly, or Bug. The latter End of this Month, there were also, in this dry Season, vast Swarms of exceeding small Insects, thought to be brought over by Easterly Winds, that settled on our Apple and Pear-trees, and there made their Cobweb-Nests. The Butter-flies also laid their Eggs, and bred Caterpillars, that over-ran many Trees, especially those that stood in low Grounds, out of the Power of Winds, and eat up both Fruit and Leaves. So likewise did these Devourers seize on the Beech-trees, where they stood so thick, as to hinder the Benefit of Winds, and thereby became so plenty, and spinned so many Cobwebs, as made it

it disagreeable to walk near such Trees. If your Trees grow in Hedges, and you cannot well burn your Straw under them, lay such Rubbish-straw at a proper Distance from the same, and set it on Fire, when a strong Wind blows; for, by this, the Smoke will be carried among the Caterpillars, or other Insects, and kill them.

Cleaning Trees. Now make Use of the Knife and Hair-cloth; the first, when the Body and Arms of your Standard Fruit-trees are wet, should be scraped with the Back of a Knife, to rub off the Moss, and dilate the Bark, for the more free Admission of the nitrous Air and Rains into the same. The second will answer the like Purpose, and both will add a new Fertility to the whole Tree, and, consequently, be a Means of increasing its Fruit.

The Breed and Mischief of the Slug, or naked Snail. This Insect, as far as I can understand, has escaped the Notice of all Authors; and therefore I shall, here, be the more particular in my Account of it. There are two Sorts of Slugs, or rather two Colours of them (occasioned, perhaps, by their Youth and Age) for they both agree in Bigness, Shape, and in their Mischief for about nine Months in the Year; are white and black, an Inch or more long, but have no Shell. The Slug is bred, both in Field and Garden, by small Eggs, that they commonly lay in *August* in the Ground; and here, in many Places, they lie undisturbed till *Candlemas*, when they crawl out of their Nests, and begin to feed on the sprouting Vegetables till *November*, if *October* is a mild Month. Some think the old ones die every Year; others, more probably, that they wrap themselves up in dead Leaves, Grass, or other Stuff, for their Preservation in cold Seasons: Yet, when Winters have been attended with long and violent Frosts, as that was in 1739, it kills most of these Insects, as, I am sure that did; for we have had none

to signify in the two following Summers. In some wet, hot Summers, they do a Power of Mischief. My Neighbour sowed Pease in *February* in the Field, and, by the first of *April*, they were eaten up. In *April*, 1738, the Slugs were so thick among the random-sowed Pease, that Pottles of these Insects might be gathered in a little Field. The first green sweet Sprout of some Pease were eaten, before they could be well seen; when this happens the Crop is spoiled. Or, if they let it alone till the Stalks get up, and eat them down afterwards, it is of bad Consequence; because if the Pea happens to make a second Shoot, as sometimes it does, and grow the thicker for it; yet then there is commonly a great deal of Straw, and but little Corn, by Reason of their late Kerning. In *September*, they will lie and eat Holes in the Turneps, and get, two or three together, into a Hole. A Neighbour of mine gave one Plowing to a Wheat-stubble, and harrowed in Rape and Turnep-feed together, for the Sheep to feed on their Leaves; but the Slug presently eat up all, while they were in their two seedling Leaves. They will feed on young Carrots and Turneps to that Degree, that many thousand Acres of the latter have been destroyed in one Year, and that after the Land has been sowed two or three Times in one Summer. It is these Insects, that help to bring on the Rot in Sheep, by their slimy, watery Bodies, which the Sheep take up in their Feeding on Commons, and elsewhere. In short, the Slug not only hurts young Carrots, Pease, Turneps, Clover, Rape, Flax, &c. while they are in their sweet second Leaf, but continue their Mischief to the Pea in particular, so long, that it is *Holy Thursday*, very often, before the Farmer can tell how it will be with them. They will eat Thatches, or Tares, ragged, but not so easily kill them, as the Pea. The Bean they never hurt, because it is tough and bitterish. It is in warm showery

showery Weather, that they do the most Damage ; for in a dry Time they disappear, and, by that, the Plough, and the Harrows, many of them are killed. In the Day, they lie in little Holes under a young Turnep, which serve as Passages to their Cells ; and, in the Night, Thief-like, they do their Mischief. If the Summer is for the most Part dry, they do but little Harm till *September*. This Insect is likewise the Pest of the Garden, as well as the Field, where he devours young Cabbage-plants, Kidney-beans, and many other culinary Vegetables, to the almost Ruin of the laborious Gardener, who knows no better Way to destroy them than with his Fingers, or Scissars, whereby he loses a great deal of Time and Pains. Therefore I shall, in one of my Monthly Books, discover a noble Ingredient, that, as I have hinted before, will infallibly prevent the Slug's doing any Mischief to Vegetables, it is sowed upon, and that in the wettest Weather ; for it is no Powder, but will dress the Land at the same Time : So that neither the Gardener, nor Farmer, need fear losing their Crops of Turneps, Cabbages, or any other, by the Slug, as heretofore.

The Nature and Mischief of the Fly. As the Slug does his Mischief in the Night, this Ravager does his in the Day, and so furiously attacks young Turneps in their sweet seedling Leaves, that, in some Years, it is a Rarity to see an Acre of well planted Turneps. In *April*, they have been seen to fly in Swarms, just above-ground, a little before a Shower of Rain, skipping and flying from one Turnep to another, till they destroy a whole Field in a short Time. Its black Body is a small Matter bigger than a large Flea, and, at Night, lies on the Ground, under a Turnep-leaf. This Insect, with the Slug and Caterpillar, are all concerned in the Ruin of the Turnep ; but the Fly is reckoned by far the archest

Enemy, because, in almost all Weathers in the Summer-time, he commits his Rapine, by gnawing the young Turnep, while it is in its second, luscious, tender Leaf; for, when it has made its third, he then often refuses it, as being too tough and bitter. It is these Insects, that bring the Farmer under very heavy Losses of Time, Labour, and Money, by spoiling his Crops; which to prevent, there have been several Antidotes invented: As Soot, Lime, Ashes, Tobacco-Sand, and, in particular, the Horse-hair Rope, and Glas in Powder to keep off the Slug: But, as all these have been either found ineffectual, or too chargeable, I shall in my next Month give you a Receipt, that will secure an Acre of Turneps from the Fly (but not the Slug) for Two-pence Charge; for I do it, by applying something to the Seed, for three Days together, before Sowing, and is what I every Year practise, to the Saving of my Turnep-crops. Now, if these two Secrets answer what I here assert they will do, and which I am certain they will, by full Experience; how valuable they will be to the Farmer in particular, and to the Nation in general, I leave to the Thought of my Readers.

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AGRICULTURE Improved.

For the Month of May.

I SHALL begin this Treatise with reciting Mr. Worlidge's Notes on the Month of May, who was certainly a most ingenious, learned Gentleman, which enabled him to touch on many Branches of Husbandry; but, for want of being acquainted with the practical Part, was forced to write very, very little on them: And therefore I shall here attempt some of their several Explanations, according to the present Practice of Husbandry.—See his Book, intituled, A Complete Body of Husbandry and Gardening: Or, The Gentleman's Companion in the Business and Pleasures of a Country Life, Printed in the Year 1716. Price Six Shillings.

CHAP. I.

MR. Worlidge's Husbandry-notes on the Month of May.—This Month ushers in the most welcome Season of the Year, Now gentle Zephyrus fans the sweet Buds; and the celestial Drops water fair Flora's Garden.—The Countryman's Heart is revived (if this Month
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prove seasonable) with the Hopes of an happy Autumn; if it prove cold, it is an Omen of Good for Health, and promises fair for a full Barn: The Pleasure of Angling is now in its Splendor, especially for Trout and Salmon.—

Now wean those Lambs you intend to have the Milk of their Ewes; forbear cutting or cropping Trees you intend shall thrive, till *October*; kill Ivy.

If your corn be too rank, you may now mow it, or feed Sheep with it, before it be too forward; weed Corn; in some Places Barley may be sown in this Month.

Now sow Buck-wheat, or Branck; sow Latter-pease: Also Hemp and Flax may yet be sown.

Weed Quicksets; drain Fens and wet Grounds; trifallow your Land; carry out Soil and Compost; gather Stones from the Fallows; turn out the Calves to Grass; overcharge not your Pastures, lest the Summer prove dry; get home your Fuel; begin to burn-beat your Land; stub or root out Goss, Furze, Broom, or Fern; and grub up such Coppices, or other shrubby woody Places, you intend should not grow again.

Sell off your Winter Cattle.

About the End of this Month mow Clover-grass, St. Foin, and other *French* grasses. Now leave off watering your Meadows, lest you gravel or rot your Grass.

Look now after your Sheep, if this Month prove rainy, lest the Rot surprise them.

Plant all Sorts of Winter Greens.

Sow the more tender Garden-seeds; as sweet Marjoram, Bawm, Thyme, and hot aromatic Herbs and Plants; set Sage and Rosemary.

Cover no longer your Cucumbers, Melons, &c. excepting with Glasses; sow Purslain, Lettuce, &c.

About

About the End of this Month take up such Talips which are dried in the Stalk.

Bind Hops to their Poles, and make up the Hills after Rain.

Watch the Bees now ready to swarm.

CHAP. II.

HOW necessary it is for Farmers to observe Plowing, Sowing, Feeding, Mowing, Reaping, and performing a thousand other Things in the Art of Husbandry in due time. — Experience has often proved how important it is for Farmers to observe Plowing, Sowing, Feeding of Cattle, Mowing, Reaping, and doing a thousand other Things in the Art of Husbandry at a right time; by the fatal Effects that have ensued the Neglect thereof. For there is certainly a critical Time for most Things; and more particularly for performing those Actions that depend on the various Seasons of the Year, of which the Countryman is, more than any other, concerned in the due Observation. Time, says one, is a thing so precious, and Occasion so precipitous; and, where many Things are to be done, Time let-pass prevents the Success of our Endeavours, and then Loss and Confusion succeeds; hence we say, the bad Husbandman has but one Chance in seven Years to get full Crops (according to the general Notion of the Country): And then he chiefly enjoys them by the mere Affluence of the Weather; that is, when a mild Winter, and a hot Summer, are attended with frequent Showers of Rain; for such Seasons commonly cause the industrious Farmers Crops to grow too rank, and consequently spoil; when the poor Land of a

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negligent Farmer produces Crops in a just Growth, to his greater Profit. And Mr. *Worlidge* well observes, that it is a very great Neglect in Agriculture, to be too late: It brings a considerable Damage; like a backward Year, that produces a bad Crop, so doth a backward Husbandman meet with small Gains. You very rarely find a thriving Husbandman behind with his Affairs, or a declining Husbandman so forward as his Neighbour. In *Hertfordshire* we call the latter Sort *Afternoon Farmers*: It is the early Bird that catcheth the Worm; accordingly a diligent Farmer thinks an Hour's Time in a Morning, for doing of Business, is worth two in an Afternoon; and therefore in this Month, and throughout all the Summer, he, by ringing a Bell or Call, alarms his Plowman, and the Plowman his Horsekeeper, who lies with him, and makes him turn out of Bed every Morning at Four of the Clock, to bait his Plow-horses, for two Hours. At Five the Plowman rises, to help harness the Horses; and then while they are feeding, both go to Breakfast; and at the same Hour of Five the Master is up, to see these and other things performed in due Order, and his Team set out to plow at Six a Clock; for, according to the common and true Saying, *The Eye of the Master makes the Horse fat*: And observe, that they continue Eight Hours Work in the Field, before they shut out; so that it is about Two a Clock, before they return to the Stable; when (as I have often known it done) a slothful Farmer suffers his Team to set out of his Yard by Seven a Clock, and out of the Field by One; which occasions him to do that Work in Six Days, which he might conveniently do in Five. Hence it is, that a backward Farmer loseth fine Sowing-days, and thereby, perhaps, a right Season for all that Year, to his great Prejudice;

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or, by his Neglect, his Hay or Corn is out in the Field, when it should have been in the Barn, and thus becomes spoiled by Rain. It was the Advice of a Friend, to one that took a Farm, where others had broke before, That he rose, at Five a Clock every Summer Morning, to water a particular Tree, and then he would engage he would not break. The Meaning of which is, That, if he was out in his Fields by that time, he would discover and prevent those who used to turn their Cattle into the same Ground, while the former sluggish Tenants were asleep, and eat up their Grass and Corn. I knew an old Knave practise this Sort of Rapine many Years, and in several Farms that he lived in, by being up earlier and later than his Neighbours; which gave him an Opportunity to make a small Gap in a Hedge, or, by lifting a Gate off its Hinges, tho' locked, make a Way for his Sheep or Horses to get their Belly full at his Brother-farmer's Cost; and if they happened to be taken in the Trespass, as he was then out of Sight, he would plead accidental Damage. But if this Excuse did not avail, and Pounding succeeded, his next Study was, how to retrieve this Loss, which he generally did in the following Manner; viz. When he thought others were safe in their Beds, he would go and open a Place for inviting his Neighbour's Cattle into his Ground, and then likewise pound them; a Skit that seldom failed of reimbursing him of what he was out of Pocket this way; and it was for this sharp Sort of Proceeding that he was called *Cut*, to his dying Day. Others there are, who keep a Horse or Horses for Higging, or for carrying of Timber, or keep Asses or Mules for carrying earthen or other Ware about the Country; some of these are the Farmers great Enemy, but most of all to the slothful Sort, because these Night-
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Encroachers wait a late Hour for turning their Beasts into a Field to fill their Bellies, with a Bag at their Tail to catch their Dung, and prevent Suspicion; for they little fear Surprise, as trusting to their vigilant Watching to take them out before the Farmer or his Men are up. But there is rather a worse Mistake to come yet, and that is, by a lazy or ignorant Farmer's wrong timing the Sowing of his Seed, as it often happens; for if, as I have remarked in my former Works, a Farmer was to sow an Horn Grey-pea so late as in *April*, or a Blue-pea in *January*, both Crops would be consequently lost. Or if a Red Lammas-wheat was to be sown in *February*, or if Barley-seed was sown then in a wet Soil, it might be expected they would share the same Fate; and the same in an Hundred other Instances, which I think I could name: However, what Mr. *Worldidge* observes is very just, when he says, "As for the Times and Seasons of the Year, from the Beginning to the End thereof, every Day something is to be done by the Husbandman, as was said of a Gardener, That his Work is never at an End, it begins with the Year, and continues to the next: yet it is not every Year alike, neither is every Place alike; some Years, or, at least, some Seasons of the Year, prove more forward by Two or Three Weeks, or more, at one time than at another: Also the Situation of Places, either better defended from, or more obvious to the Intemperature of the Air, begets some Alterations." In these, and such-like Cases, the subsequent Rules of my several Monthly Supplements are to be seasonably applied by the judicious Husbandman, according as the Season happens to be earlier or later, or the Nature of the Soil, and its Situation require; and which, as they are written for the Practice of *Britain*,

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tain, are very different from many of those Rules laid down by ancient foreign Authors, who wrote their Books in *Italy, France*, and other hotter Countries, where their Degrees of Heat, and earlier Seasons, very much vary from those of ours; and therefore a Grain, a Grass-seed, or a Tree, &c. proper to the Climate, Season of the Year, and Soil, should be with nice Judgment sown and planted: For if, no farther off than in some Parts of *Darby, Stafford, Shropshire*, and other Northern Counties, they are obliged to sow Oats for Bread, because the Poorness of the Ground, and the Severity of their cold Seasons, will not suffer Wheat to prosper; or, if they do sow Wheat, or Barley, or Peas, &c. the first must be sown very early, and the latter later than is observed to be done in the more southern Parts of *England*: How should one Rule of Time, &c. serve for both Countries, without leading the Farmers of one or both of them into Mistakes? On the Grass Baulks of some of my plowed inclos'd Fields, I have some Standard *French*, and other excellent forward Pear-trees growing, that, in some kind Seasons, with a little Assistance at their Roots, bear pretty well; when, if such were planted in some Parts of the North, it would discover a great Imprudence in their Owner, because, their tender Natures not being capable of resisting the Violence of their late cold Weather, it would render their expensive Attempts fruitless. Wherefore, when Gentlemen send to me for different Sorts of Corn, Grass-seeds, Fruit-trees, &c. I endeavour to know the Nature of their Soils, and their Situations; and accordingly give them the best Account I can, when, where, and how, to sow these Seeds, and plant the Trees that are proper, and apply a Dressing to them, as is most agreeable to the Place for forcing on a full Growth
of

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of their several Species with the greatest Expedition and Profit.

C H A P. III.

IF the Month of *May* prove seasonable, it revives the Countryman's Heart with the Hopes of an happy Autumn, and a full Barn.—As this Remark affords my Pen a very extensive Opportunity to make Observations on several Field Vegetables that are to be received into Barns; I shall first begin with that of *Wheat*.

Of Wheat, and its Incidents, in the Month of May
—These *Items* of Mr. *Worlidge* are certainly true, though mere and trifling, because they are without useful Explanations; and therefore I am induced to enlarge on their Particulars, that they may become serviceable to my Readers. Hence, then, I am to observe, that the Month of *May* may be said to be seasonable, and revive the Farmer's Heart, when he sees it attended with dry Weather; for then his Corn, his Grass, and his Trees, are forced on in a regular fertile Growth, which gives the *Wheat* an Opportunity to begin opening its Sheath or Huse, and let out the green Ear of the more forward and largest Stalks; for we say, *May never goes out without a Wheat-ear*; and then, if the former Months have been as propitious as a dry *May* is, there will appear a most encouraging Sight, to see whole Fields of this King of Grain shew their innumerable long Heads, in their green Livery, full of plump, milky Kernels, as a Presage of great Crops at Harvest; for, by means of favourable Seasons before, and now, those prejudicial Extremes are very much avoided, which sometimes damage
Wheat

Wheat in its tender infant Growth; but when inclement Seasons have happened before, and a wet, cold May follows, or if former Months have been kind, and only May falls under this Extreme of Weather; Wheat, that should now appear with a very deep, green Colour, and broad Blades, will shew itself reddish at their Ends, or yellowish and sickly; and the more, if Inundations of Waters cover Valley and other low Grounds, when but a Yard or two's Breadth is to be seen on each Side of a Ridge-land free of Water, then it is, that the Vale is in Danger of being fed by the Hill, according to the old proverbial Observation:

*When the Sand doth feed the Clay,
England Woe and Wail a-day!
But when the Clay doth feed the Sand,
Then it is well with England.*

For *A May Flood never did England Good.* Hence the old Observation had its Rise——

*A cold May, and a windy,
Makes a full Barn, and a findy;*

Because a cold and dry May prevents the luxuriant Progress of Weeds, by checking them, and giving the Wheat an Opportunity to maintain itself in such a moderate Growth, as to keep the Weed under, and yet not run into that Rankness of Stalk which sometimes occasions the Loss of the greatest Part of the Crop. This Consideration leads me to take notice more particularly of the two Extremes of Weather that have affected Wheat in May. If a hot, dripping Time attends this Month, it is very likely to force the green Wheat to run so fast into high, heavy Stalks and Ears, as to cause them to bend under their great Weight,

as being loaded with Sap, and the Water of Rain, while they are in their tender green Age, and weak Condition; then, if the Wheat continues couching and falling down, it is in great Danger of producing poor thin Kernels, and consequently, a half or quarter Crop at Harvest; because, by such Bent or Fall of its Stalks, the Sap is checked in its Ascent, and cannot feed the Ear in due Time, nor with that Plenty of it, as is necessary to fill and enlarge the Kernels to their desired Bigness. This Evil is likewise sometimes increased by the Fall of Honey-dews, which, by this couching Position of the Wheat, have the greater Opportunity to fall, and make a Lodgment on its Stalks, that they spot and blacken with their burning Quality, and which tend to ripen the Straw too soon, hinder such Nourishment being conveyed to the Corn, as would otherwise feed them in great Perfection; and thus these Dews prove another great Impediment to lessen the Farmers Crops of Wheat.

On the contrary, if it happens to be a very cold wet May, as sometimes it is, to that Degree, that a Blackbird has been killed on its Nest, and the Cow made to quake by its extreme Sharpness, then the Roots of this Pay-rent Grain will be probably chilled, and many of them killed; and then it is, that the Farmer's Arch-enemy, the Weed, soon triumphs, by getting full Room to enlarge its Roots, spread its Branches, grow into high Heads, and carrying its Dominion over the Wheat, to the Destruction of great Part of the Crop, which before, by kinder Seasons, remained Master of the Field, and subdued the Weed. This is the main Month of all the Year for discovering Plenty or Scarcity of Wheat, Barley, and other Grains and Vegetables; for, as their Condition is in this Month, an Estimate, in a great Degree, may be made of their good or bad Success, ac-

according to the Nature of the Weather that attends their Growth, as I have before observed : Which Case so governs the Conduct of many who are concerned in the Trade and Use of them, that they forbear furnishing themselves with great Quantities of Wheat, Barley, and other Grain and Fruits, &c. till they see May past, for being the more able to form a Judgment with the better Assurance of the Produce the present Year is like to be attended with.

How a considerable Number of Soldiers improved a Wheat-crop.—It was in the Spring 1742-3. when a considerable Number of Foot-soldiers marched from the North to the South Part of England; and, as it happened, two Companies of them came into one and the same Town in *Hertfordshire*, to be quartered, instead of one Company, because one mistook their Way to another Town which was ordered them by their Route : And, being here, the Landlord of the biggest Inn, who rented some Fields behind his House, that were a chalky Soil, desired their chief Officer to exercise his Men on one of them, that had Wheat growing in it, and he would treat them all with—. Accordingly the Officer complied with his Request, and exercised the two Companies thereon, that trod down his Wheat to the Purpose; for, you must know, this chalky Soil is of so loose a Nature, that they seldom could get a tolerable Crop of Wheat off the same; because, though they sowed the Seed in ever so good a Season, yet the Frosts and March Time generally loosened this crumbling short Earth about the Wheat-roots, and dried them so much, as to give the After-rains and Winds Power to beat and lay down the Stalks and Ears of this rich golden Grain, so as to make it a poor silver Crop by reason it had not a Foundation stiff enough to support them in a due Erection. But

by the Soldiers trampling on this Crop during all the Time of their Exercise, they trod the Wheat so close down, and fastened the Earth so firm about its Roots, that the Surface became crufted into a hard Consistence, which exactly answered the Owner's Desire; for on the third Day of this Month there was a fine Appearance of a promising plentiful Crop at Harvest, and accordingly the Wheat grew up with large Stalks and Ears; and though this Field lay in a very high Situation, facing the North and East; yet, by the Soldiers treading, the Roots received such Strength, as enabled them to support the Wheat against all the Violence of Winds and Rains that afterwards happened; and at last produced a plentiful Crop, that fully answered the Innkeeper's Satisfaction.

CHAP. IV.

Of French or Buck-wheat.

WHY some think sowing French Wheat in the Broad-cast way is better than when it is sown in Drills.

— In my Monthly Book of the Modern Husbandman for May, I have written very particularly on this serviceable Grain; but I have not there made that Distinction I should have done, between sowing this Wheat in the broad Land, and in the Drill-mode, and therefore here I shall endeavour to supply the Deficiency. In all my Travels I never see this French Wheat sown any other Way, than in the Broad-cast Fashion; because they think it so good a Way, that none can exceed it, as being the greatest Weed-killer of all Field Vegetables, by means of its branching, and growing, with its large high Stalks, into very bulky

bulky Crops, and with such Expedition, as gives a Farmer an Opportunity of sowing it in *May*, and yet to mow it, for plowing it in, as a Dressing to nourish a Crop of natural Wheat in *July*: Thus *French Wheat* kills Weeds in the cheapest Manner possible, and yet may be enjoined as an Improver of a poor hungry Soil, or to stand for mowing it as a Crop of Seed. About *Chaffon*, that lies between *Amersham* and *Uxbridge*, they sow much of this Seed on their gravelly Soils, some for plowing it in at Blossoming-time, and others, for the great Quantities of triangular Grain that it produces, which serves their Farmers to fat their Swine, at a very easy Rate, and in a very short time; for this Grain, if rightly managed, will be greedily eaten by them and Poultry; and, sooner than most other Corn, will breed Flesh on Horses, Cows, Sheep, and other Beasts. But a certain Farmer in these Parts proceeded in a Way of getting a Crop of *French Wheat* I never heard of before.

A new Way of sowing French Wheat.—Near *Rickmansworth* in *Hertfordshire* a Farmer sowed a four-acre gravelly Field with Hog-peas Broad-cast; and after these were ripe, and got off the Ground, he immediately plowed up the same, and harrowed in Rye for feeding his suckling Ewes in *February*, *March*, and *April*. When the Rye was eaten off, he plowed up the same Ground on the Fourth of *May*, and on the Thirteenth following he plowed the same again all in Broad-lands, and then found the Earth fine enough for his Purpose; and that was this: He sowed, on each Acre of this inclosed Field, three Pecks of *French Wheat*, and one Pound of Turnep-seed Broad-cast, and harrowed all in together. The Wheat was sown to plow in for a Dressing to the Ground, and so once or twice more afterwards,
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in order to get it rotted and well-mixed with the Land for setting a Crop of natural Wheat on the same. And the Turnep-seed of the *Dutch* early Sort was soon to pull up in *July* for the Farmer's Pot, and to sell in Harvest-time; and as the *French* Wheat was sown in less Quantity than usually is done for an intire Crop, it grew thin, and gave a Man the more Room to pull up the Turneps; and though he was obliged to tread down some Part of the Wheat, yet, as it was to be plowed in, the Damage was of the less Consequence. After the Turneps were got off, and the *French* Wheat plowed in, and the same Ground plowed till it was got into a fine Tilth, the Farmer sowed it with natural Wheat in *October* following; and in *May* 1742. the Wheat made so fine an Appearance as promised fair for a full Crop at Harvest.

How French Wheat may be improved by the Drill Husbandry.—I am here about to undertake what was never written of before in respect to the sowing of *French* Wheat in Drills. Yet I am sure it may be done three several Ways: If a Person would have an intire Crop of this Wheat grow in the Drill-mode, he may sow the Seed out of the Hopper of the Drill-plough, in Drills at Twelve Inches asunder; but then the Land ought to be first prepared by several Plowings, till it is in a fine Tilth, and at last laid in one intire broad Land; that is, it is to be so plowed, that there be no Water-furrows throughout the Field; if there is, the Drill-plough cannot rightly perform its Work; but when the Ground is got thus into Order, then the *French* Wheat may be drill'd in to great Profit; which I make out in this manner, viz. In the first place, the Land need not be dung'd for this Purpose, because the fine Earth that falls of itself on the Seed, as soon as it is dropped out of the Hopper,

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will sufficiently supply it, by maintaining the Crop in a fertile Growth all the time after: And when the *Dutch Hoe* has been employed twice the same Summer (if once will not do) for clearing the Intervals of all Weeds, the Roots of the *French Wheat* will receive an Augmentation of Nourishment; and thereby be the better enabled to push on the Growth of its large high Stalks, and blooming Ears, with greater Expedition, than when the Seed is sown in the promiscuous or Broad-cast Way; because, by the twelve Inches Intervals, the Sun and Air have free Liberty to come at them with their benign Influences, that very much tend to forward the Ripening of all Vegetables they have a roomy Access to: which is one (among many others) of the great Benefits attending the Drill Husbandry, that the random-sown Seed, and its Branches, is very much deprived of: A Benefit that is more than ordinary necessary here, because the sooner the *French Wheat* is in Blossom, the sooner it may be plow'd in to dress the Ground for a Crop of natural Wheat, and have the more Time to rot, and thoroughly mix with the Earth, against the next *October* Sowing-season. Now the Advantage of sowing *French Wheat* in the Drill-way, for preparing Ground to sow a Crop of natural Wheat on the same, is this: It saves the Charge of the greatest Part of twenty or thirty Shillings, necessary to be expended for Dung or Manure, and its Carriage to the Field, to dress only one Acre of Land; an Article of great Consequence to all those who rent or own inclosed, sandy, gravelly, or dry loamy Soils: For, in dressing ten, twenty, thirty, or more Acres of such Land, there may a great Sum be saved by this very means of sowing *French Wheat*-seed in Drills; and the more, if the Ground lies at a considerable Distance from the Farm-house; for there

is a wide Difference between the Expence of seven Shillings and thirty Shillings. If fifteen Loads of Dung be laid on one Acre of Land, to dress it for a Crop of natural Wheat; this, and its Carriage, is worth thirty Shillings at least; when for three Pecks of *French* Wheat-seed and two Hoings, the Charge will amount to but about seven Shillings an Acre, and yet will answer the Farmer's Purpose as well as Dung, and the better, as the Earth is kept cleaner from Weeds, than when *French* Wheat grows promiscuously on it; and as much in a fine Tilth, as if nothing grew on it in all the fallow Summer-season. Likewise, when this drill'd Wheat is arrived to its blooming Growth, it may be then mowed down, and scattered by Fork all over the Land, ready for the Swing, or other Plough, to work across the Ground, and plow it in as well as if it grew in the random Posture. Another Way to improve *French* Wheat, is to sow it in Drills with Turnep-seed in the Intervals, in Opposition to that before-mentioned; which gives an Account, how a Farmer sowed his *French* Wheat-seed and Turnep-seed together, by broad-casting them over all the Ground; that, consequently, produced poor little Turneps, and did the *French* Wheat some Harm besides; for, as they grew in this Posture, there was no such thing as hoeing the Turneps; therefore they must grow, as it were, in a wild manner, be rather more Leaf than Root, and greatly impoverish the Ground by drawing them; and the more, if it was not first dung'd before the Wheat and Turnep-seed were sown; whereas, by drilling in the *French* Wheat-seed in Drills, at four Feet asunder, and sowing the broad Intervals with Turnep-seed in a fine Earth, without any Dung or Manure, the Wheat and Turneps may be so cleverly hoed, as to cause them both to be large Crops, if a kind Season

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Season of Weather attend their Growth. It is then a Profit may be raised, much superior to that got by sowing *French* Wheat and Turnep-seed in the Random-way; because the Stalks of the first, and Roots of the last, will, by drilling and hoeing, be abundantly larger than them, and sooner ripe, for ploughing one in, and drawing the other; and, after the *Dutch* forward Turneps are so drawn, and sold off, the *French* Wheat may be mowed as before, and with Forks scattered about, and ploughed-in for a Dressing to a succeeding Crop of natural Wheat; where, I suppose, it will do altogether as much good as the former *French* Wheat sown in the Broad-cast way did; because there will be near, if not quite, as much of it grow in Drills, as in the other Posture: Or, if a Person thinks fit, the Turnep-seed may be drill'd as well as the *French* Wheat-seed, in Drills at fifteen or eighteen Inches apart, and especially where a Crop of this Wheat is to stand for Seed; for then natural Wheat-seed may, in *October* following, be sown in Drills made in the middle of each of the former Intervals: And thus all the three Crops may be made to redound, in a very great degree, to the Farmer's Profit; because, by this very means, all Charge for Dunging or Manuring is here intirely saved.

CHAP. V.

Of Barley.

HOW to sow Barley with Success in this Month.—

It is an unusual thing to sow Barley in this late Month; but, as it has been done, and a good Crop succeeded, it may be so again, provided

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the following Precautions be well regarded : and they are these, *viz.* First, the Ground that may be put to this Use, should be a fine, dry, rich Soil, or a fine, dry, poor one, well-dung'd before-hand, or afterwards manured. Secondly, the Barley-seed, if sown naked, should be the *Fulham* or *Putney* Sort, or a Sort that came last off a sandy or other warm Earth. Thirdly, whether it be a Barley that came off a sandy or any other Ground, it ought to be first steeped or infused in a proper Menstruum or Liquor, and limed before Sowing, to prevent the pernicious Effects of too dry Weather (that now may be expected to follow) from retarding the Growth of the Barley-crop. These things premised, I shall proceed to direct the Sowing of the Seed.

A new and very cheap Receipt, how to steep Barley-seed for fertilizing its Crop in the driest Season, by the Infusion of Copperas.—Get a large Tub ready, and put therein a wooden Tap, or brass Cock, with a Tap, Wisp, or roundish Basket, to keep the soaked Barley from choaking, or stopping up the Mouth of the Tap or Cock. When this is done, heat as much Water as will near fill a Pail; and, when it is heated scalding-hot, put in three Pounds of green Copperas, that, with stirring about, will quickly dissolve; then directly pour this Copperas hot Liquor, by slow degrees, all over three Bushels and a half of Barley, as it lies in the Tub; and likewise as much cold Mudgel, Hole, or Dunghil, or black Ditch-water, as will lie four or six Inches above the Barley-seed, which are all to remain in this Posture from one Evening to the next, when all the Liquor is to be drawn clean off, and the soaked Barley laid in a Heap on the Ground, to lie and drain all Night: In the Morning, spread the Barley somewhat into a roundish Flat, and sift flak'd

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Lime over it, which mix well with a Shovel, and so again, till you think the Barley has lodg'd a thick Coat of the Lime; then put it into a Sack, and go to Breakfast for half an Hour; and by the time the Ploughman is ready to sow it broadcast, I will engage it will be full dry enough for his Hand. This Quantity just sows an Acre of Ground, that must be harrowed-in according to the Directions I have given in my modern Husbandman for the Month of *May*: And for steeping and preparing more Barley-seed ready for farther sowing the Land, take the old Copperas Liquor every time, and return it into the Tub again; and steep three Pounds of Copperas more in hot Water, to be used in the very same manner you did the first; and add Dunghil, or other black Water, to three Bushels and a half of Barley-seed, that is to be limed and sown as the last was. Thus you may proceed from Day to Day, getting your Barley-seed completely ready for sowing with so little Trouble and Cost, that, in Consideration of the very great Advantages attending this excellent Piece of new Husbandry, no one, in my humble Opinion, has the least Reason to grudge their Time, their Labour, nor their Expence, on this Account. As to the Time and Labour requisite to be spent in the Preparation of the Barley-seed, it is no ways detrimental to the Farmer's Interest; because the Ploughman, if he lives in but a Farm of eighty Pounds a Year Rent, would do little or nothing the mean while: And as to the Charge of the Copperas, I have bought it several times in the Country for Two-pence a Pound at the worst hand; which makes me believe, it may be had cheaper in *London*. Who then would grudge to bestow Six-pence on every Acre of Land that is to be sown with Barley, when perhaps this small Sum may be the Cause of getting

the Farmer four Pounds? Which I pretend to prove the Chance of, thus: I will suppose the Soil to be a Chalk, a Sand, a Gravel, or dry Loam; for these are the properest Sorts for producing the best Barley, and the biggest Crops of it: And that one of these has been ploughed till it has been got into a pure fine-powder'd Tilth, and richly dress'd; for Barley, beyond all other Field-Grain, demands these two Requisites. I will also suppose, that a long dry Time directly follows the sowing an Acre of Ground with all dry Barley-seed: If so, how should such dry Seed, sown on warm dry Land, come up in a regular Growth; since the Earth, in this Condition, is not able to do it, by reason the Barley-corns lie in three several Depths, or Stratum, of the Ground, where the Sprout of the lowest will in course appear first, because here the most Moisture and Shade attends it? The next upper Seed will succeed; and the last, or that which lies nearest the Surface, will consequently be the latest in its Growth; and thus hold it till Harvest, if Rains keep off for seven, eight, or more Weeks together, as in some dry Summers it has done. In this Case a Person has little Reason to expect more than three or four Quarters of Barley, at most, on an Acre, in Return for sowing four Bushels of Seed; because, at Harvest, some will be ripe, some half-ripe, and some in its Hove or green Ears: But when the Barley-seed is duly steep'd and limed, the Crop, in the driest Time, will sprout almost all together, and continue its Growth, till it gets Blades broad, high, and thick enough to shade its Roots; and then such Cover alone, with the Help of Dews, will carry it forward, till it arrives to a fine, large, full Crop, that undoubtedly will produce six, seven, or more Quarters, from off every Acre of Ground, in a true, even Order of

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of Ripeness, and mostly of one Bigness, that qualifies its Corns to make the best of Malt.

A farther Account of the Benefits attending steeped Barley-feed.—And what I have farther very particularly to remark on this Subject is, that the Steeping of Barley-feed mostly redounds to the Farmer's Interest, when the driest Summers happen; for then they who sow this Seed dry, have the least Crops, and those of the worst of Barley, which, in course, raises the Price of this Grain to twenty, five-and-twenty, or more Shillings a Quarter; and this for a Medley of unripe and unsizeable Corn; which certainly gives those Farmers, who steeped their Seed, a superior Opportunity of selling their ripe, plump, even Barley, for Shillings more a Quarter, than those can who sowed their Seed dry. This leads me likewise farther to observe, that in my said Book of Husbandry for May, I have published a Receipt, how to make a Composition with Nitre for steeping Barley-feed therein, and preventing the Mischiefs that a long dry Season may bring a Crop of it under: But, as Nitre is rather too chargeable for many Farmers Pockets; it has discouraged Thousands from making Trial of it, though it would certainly be to their vast Advantage. I have therefore been induced to publish this most cheap Copperas Receipt, that I myself have several times made use of to my great Benefit; for which Reason my Readers may depend on its being wrote from the Field of Practice: And I hope this plain Account of its Success, and the small Cost of the Ingredient, will tempt great Numbers of Gentlemen and Farmers into the frequent Use of it; for if once it becomes a general Practice to sow steeped Barley-feed, I am sure the Nation, in a great measure, will be delivered from that infinite Damage, that, in some dry Summers, attends Barley-

ley-crops, whose Seed was sown in the old naked Manner, and mowed in two or three Degrees of Growth; for then it is impossible to make a true Malt of it; and if the Malt is not good, I am sure the Ale and Beer made from it cannot be so; and then what must those People suffer, whose Number are by far the greatest Part of the Kingdom? Why, they must drink a poor wretched Malt Liquor; and the worse, when it is brewed in a wrong Manner, abused by the too-long Boiling of Hops into a nauseous unhealthy Bitter, and loaded with the deadly, saline, and sulphureous Tincture of a large Quantity of Yest, that has been beating into Ale a Week, or more, together in Winter, and a few Days into that and Butt Beer in warmer Weather, for saving, perhaps, two Bushels of Malt in eight, which such Male-practice will certainly effect; and yet the Drink will be full as strong as that brewed from eight Bushels, in the fair honest Way of brewing it.

The ill Effects of sowing Barley-seed dry in Drills.
 — This dryish Summer, 1743, manifestly proved the ill Effects of drilling Barley-seed dry; for, in the several Fields that I beheld in my Journeys this Year, I saw not one of them under a full Crop of drill'd Barley, because the Seed was sown dry and naked out of the Hopper of a Drill-plough; and, as it was sown dry, the small Showers that happened, afforded not sufficient Moisture to bring forward a plentiful Crop. A Field of Barley, sown in Drills, requires rather more Rain than when it is sown broad-cast, by reason the Seed lies deeper, confined in a more narrow Compass of Ground, than that harrowed in. Now, as the Barley is sown thus in Drills at a Foot asunder, the Sun and Air have great Room to come at and dry the Seed, or its Roots, more than when the Seed

is sown thick in the Random-way, where their Roots and Stalks grow so close together, that one helps to defend the other against the Damage of Droughts. In Drills the Barley-seed lies so thick, that, when it is sown dry, one Seed hinders another, in a small Degree, from sprouting into a regular Growth, if Rains do not fall in time, and in such Plenty, that all the undermost, middlemost, and top Seed have their full Share of Moisture; if they have not, I am sure there will not only be a very scanty Crop at Harvest, but the Barley will be of two or three Sorts of Growth; which leads me to consider the Benefits that attend Barley-seed first steeped in a fertile Liquor, and then sown in Drills by a Drill-plough.

The good Effects of sowing steeped Barley-seed in Drills.—As this is a Summer Corn, and has but a few Months to perfect its Crops in, and they the hottest, and commonly the driest, in the whole Year, the Seed requires a moist Assistance the more, to bring on its Growth in a regular and due Order. Barley sown in narrow Drills, some of it will be ripe sooner than others, and produce both small and larger Ears at Harvest, according as the Seed lies bedded in the Drill for enjoying more or less of the Earth's Assistance, a Fault that consequently attends drill'd Barley, if Rains fall in Season; but if they do not, the Evil is increased. Hence then comes in the great Benefit of first infusing the Barley-seed in a fertile Liquor, that gives all Seed, steeped in it, full Room to imbibe as much of it as they can receive; and when it is saturated, and received its full Quantity, it carries the same into the Drill, under a nourishing Coat of Lime: And whether Rains fall, or not fall, in time, the Barley-seed will sprout almost all at once, and push on a Growth of green Blades and Stalks with great Expedition and Strength; and Expedition
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is one great Means for enjoying a full Crop of Barley in its highest whitest Perfection, because it will be ripe, while the Days are long, and the Nights short; which gives the Farmer the best Opportunity of curing it after mowing, in the Field, and housing it in dry Order afterwards.

Why Vale Farmers ought to steep their Barley-feed before Sowing.—By this time, I think, I have made it fully appear, how much it is to a Farmer's Interest to steep all his Barley-feed: And, therefore, the Copperas or Nitre-Receipt ought to be put in Practice by both *Vale* and *Cbelturne* Farmers, whether they sow their Barley in the Random or the Drill-way. I have heretofore wrote largely on this Account, how steeped Barley is to be sown by a *Cbelturne* Farmer; and now come to be somewhat particular in Behalf of the *Vale* Farmer. As to a *Vale* Farmer, whose Land is of a clayey or stiff loamy Nature, I cannot say it is for his Benefit to sow Barley in Drills; but I say this, that although he sows it broad-cast, it is much his surer and more profitable Way to steep his Seed first, as I have before advised; because, by this, he is delivered from the Damage of Droughts, that may directly succeed his Sowing, for aught he knows, and hold for Months together; and then his Crops may turn out but half his usual Quantity. Or, secondly, if Rains fall in due Order and Time, his steeped Seed, carrying with it a great deal of fertile Liquor and Lime into the Ground, will certainly enable it to become the greater Crop. Or, thirdly, in case his *March* sown Barley is flooded by *April* or *May* Showers, that may fall in such Quantities as to drown the lower Parts of the Ridge-land, and keep the Barley-roots under Water for some time; then, I say, it is, that the steeped Barley will sustain such Damage better than naked-sown Barley; because

because the steeped will get a stronger Root sooner than the other. Or, fourthly, if Rain happen to fall in hasty Showers presently after the Barley is sown, it sometimes occasions the Surface to run into a Pancake Consistence; and if a dry Time presently succeeds this, the top Earth may become so crufted and hard, as to hinder many of the infant Sprouts, or Blades, from making their Way into the Air; and then, in course, great Part of the Barley-crop will be lost: But, by sowing steeped Barley, the Farmer has no Occasion to be under any Apprehension of this sort; for if such Weather should chance to follow the Sowing of the steeped Seed, the Blades will make their Way through, as having sufficient Strength at their Roots to maintain them in a vigorous Growth. But there is a farther Advantage than what I have here observed, attending steeped Barley-feed: Any *Chelturne*, or *Vale* Farmer, may, with some Assurance, sow such Seed late, even throughout *April*, or in the Beginning of *May*, and yet have good Reason to hope for a plentiful ripe Crop in due time. This is one great Perfection of steeping Barley-feed, which I pretend to prove thus: Suppose a Farmer is hindered by either Multitude of Business, or by a long Season of wet Weather, from sowing his Barley-feed till even *April*, or early in *May*, and he should then sow his Seed in the naked Way, he must certainly run a very great Risque of getting a full Crop of Barley; because, if dry Weather should succeed, the Mischiefs I have before mentioned will consequently ensue, to his great Loss: And, if a warm rainy Season should follow, there may be a great deal of Straw, and little Corn; whereas, when the Barley-feed goes into the Ground full-steeped and limed, it will directly, with great Expedition, grow up, and join Assistance with the Rain, to

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propagate and forward a great Crop of Corn. I know a Farmer, who finding himself necessitated, thro' Multitude of Business, to defer sowing his Barley late, and who, having no Notion of any Ingredient that could tend to the multiplying of late Barley-seed, he steeped it in common Water, limed it, and sowed it; and though his Neighbours had sowed their naked Barley-seed a good while before he did his, yet his Barley was ripe as soon as theirs, and a much better Crop. Now, to all this, I have farther to observe, that Gentlemen, or Farmers, may proceed thus far in sowing steeped Barley-seed, either in broad Land or Drills, and yet miss of a good Crop, without having Reason to impute the Miscarriage to the steeping Part; for, where the Ground is not beforehand duly prepared by several Plowings, and brought into a fine Tilth at Sowing-time, it may be the Means of hindering a full Crop at Harvest; or if Rains fall in the Time of sowing, or harrowing of the Seed in, it may occasion the Loss of great Part of the Crop; or if severe Frosts happen in *April* or *May*, it may so check the Barley-crop, as to spoil the major Part of it, or do it a lesser Damage; and the same by Inundation of Waters.

CHAP. VI.

Of the Improvement of Beans, &c.

HOW some Farmers have Opportunities beyond some Gardeners, to sow and improve Crops of Beans, Peas, Turneps, Carrots, Parsneps, Potatoes, Cabbages, and several other Vegetables.—A Farmer especially one who rents an inclosed Farm, and

can with more Assurance call his Crops his own, than he who rents his Land in open Fields, has some Opportunities equal with a Gardener, to propagate several Sorts of Vegetables, and even better than he can in respect of Room; for there are many Gardeners that live altogether by their Profession, and rent Ground that does not give them the Liberty of making use of a Plough, by reason of the narrow Quantity of their Land, or that Fruit or other Trees, or Shrubs, or culinary Vegetables, which are sown in most Months of the Year, stand in the Way, and oblige him to do all his Work by the tedious and chargeable Spade, which, although it may perform its Operations better than the Plough, because it may be made to dig deeper than the Share can go, yet a Plough, in some other respects, will do its Work as well as that antient Tool, and discharge more in one Day, than twelve or twenty Men can by the Labour of any Hand-Instrument; which renders the Gardener's Charge for preparing his Ground for Sowing, much greater than a Farmer's, who, having a great deal of Room at a smaller Rent, has the Liberty of enjoying Crops of Turneps, Carrots, Parsneps, Potatoes, Beans, Peas, Cabbages, Onions, and many other Things, in the cheapest Manner possible; and the more, since the excellent Drill-plough is invented, that will sow large and small Seeds out of it in the truest and most expeditious Way; insomuch that no Man's Hand can sow Seed so true as the Drill-plough can, and which will make more Drills, and sow more Seed in them in one Day, than many Men can in the same time. The like Conveniency may be enjoyed by the Use of the new-found-out profitable Horse-break, which, in a Field, will hoe up more Ground between Beans or Peas, &c. in one Day, I believe I may say, than ten Men can

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do. And it is like to prove a happy Invention not only to the Farmer in particular, but likewise to the Nation in general; because these new Machines, with several others (I may say many), that I intend to discover in my future Works, will not only save him great Expences, and bring him in a great deal of Profit; but they will be the Means of employing many poor Men, who would not be so much employed, had it not been for these Instruments. This I pretend to prove, by asserting, that as one and the same Field may be every Year sown with Grain for Time out of Mind, without making it lie fallow, there will be much more Corn got than in the old Husbandry; and consequently more Reaping, Mowing, Threshing, and other Work done by poor Men, as well as Hoeing; for though the Horse-break hoes and turns the Earth besides, two different Ways; yet the Hand-hoe comes in afterwards for some Labour to pull the Mould closer to the Stalk, than the Break can safely do, if a Farmer is not a very great Sloven indeed. Thus, I hope, I have made it appear, in some Degree, that these new Instruments are of great Service to the Farmer, who, as he is the chiefest Artificer in the Nation, ought to have the most extensive and most beneficial Assistance given him of all others whatsoever.

The Method and Benefit of sowing Broad or Hotspur-beans in this Month.——The Sowing of Beans so late as in this Month, is practised but by very few Farmers; and they must be those who are Masters of warm rich Soils. Here indeed they may be sown in an inclosed Field; but they must be of the Hotspur-kind, as the *Venetian*, the *Spanish*, or the *Portugal* Bean; for these, being of a forward growing Nature, especially if they have been directly imported, and not sown in *England* before, will prosper and bear much, though they are

are sown the earliest and the latest, even from *October* to any Time in this Month; if now, they ought to be sown in Drills, and not set, because they will, in the former Way, make their Growth quicker than in the latter; and quicker and more fertile still, if the Seed is first prepared according to Art, as I shall presently shew: But these Sort of Beans cannot be sown out of any Drill-plough so well as the Hand, as some think: However, hereafter I hope I shall be able to convince them, they may be better. In the mean time, I shall proceed to my intended Purpose of discovering a new Improvement for forwarding and increasing latter-sown Bean-crops; which ought to be the more regarded, as a very late Crop sells for as much Money as a forward Crop; Scarcity makes the Rarity; and as Art helps Nature, these Beans may be so managed, as to force them to throw out their first Sprout or Shoot in a little time, and be thus made to produce a profitable green Crop, after the broad Beans are ripe, and sold off.

How to steep broad Beans, so as to forward their Growth with great Expedition.—This Secret is of great Consequence to all those Farmers who sow these Beans in Fields, for selling them in their green Condition; as is the Practice of many of our *Hertfordshire* Men, who, being Occupiers of loamy Soils in inclosed Fields, make it one Branch of their Business to get Crops of the broad *Windfor*, the *Sandwich*, and the *Hotspur*-beans, to sell in their Pods at Markets, and about the Country. And indeed, since some Farmers have thus engaged themselves in this necessary Branch of Husbandry, the Country has received a considerable Advantage by it; because the Gardeners, who generally rent but little Ground for this Purpose, produced so few, as to cause their Price, disagreeable to the Farmer's Pocket: But now we commonly

monly enjoy a former and latter Crop of them, to our great Convenience: And, that we may do so in the best and cheapest Manner, mix either Coal or Wood-foot with Urine, and in this Mixture steep a Parcel of Hotspur-beans three or four Hours at least, and sow them as follows:

First Way.—You may make Drills with a Drill-plough, or with any other narrow Plough, in which these Hotspur-beans may be dropped out of a Man's Hand, at two or three Inches apart, in Drills made at two Foot asunder; then, with one or more light Harrows, the Beans may be easily covered with Mould, and suffered to grow, till they are fit to be improved by the most excellent Horse-break.

Second Way.—Or, after the Ground has, by a former Ploughing or two, been got into a tolerable Tilth, you may now, with a narrow Plough, plough the Land into narrow small Bouts, which is performed by laying one Furrow of Earth up against another (an Operation well known to right *Hertfordshire* Ploughmen, who, I dare presume to say, are the greatest Masters of ploughing Land in various Shapes of any Ploughmen in *England*); by this means there will be a Furrow or Drill at about two Foot asunder from each other, wherein a Man may, by his Hand, drop out those Beans at a proper Distance from each other: But some Farmers think it an easier and more expeditious Way, after the Land is thus lain up in small Bouts, to sow these Beans out of the Hand, after the broad-cast Mode of Sowing, for that they will in course fall into the Furrow; and if any should chance to lodge on the Ridge-part of a Bout, they may be taken and put into the Furrow: And, when the Beans are thus sown, the next Thing to be done is to cover them with Mould; which to do, take one or more light Harrows, and

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draw them along the Bouts longwise twice in a Place; and then the Operation is over for the present; for they must not be harrowed crosswise at all, lest the Harrows tear up and misplace the Beans, which, when once in their Bed, must not be disturbed in the least, till the Horse-break or Hand-hoe is employed between their Rows, to kill the Weeds that may grow up in the Intervals, and for Earthing up to their Roots, to forward their Growth with the greater Expedition: For which Purpose, this Way of ploughing the Ground in little Bouts, gives the Horse-break or Hand-hoe a great Advantage of pulling down a sufficient Quantity of Earth towards the Roots and Stalks of the Beans; because this Sort of Ploughing, after the Harrows have been made use of, leaves the Mould a little higher than ordinary in the Middle between the Rows, which the better serves to assist and fertilize the Crop of Beans, and is so cheap, quick, and profitable an Operation, that, of late, some of the most acute Farmers who are acquainted with it, follow this very Method of sowing their Peas and small Beans, preferable to all others, where the Ground will admit of it; for in Vale stiff Earths, where the Land is always ploughed one Way, this sort of Ploughing and Sowing cannot be performed, nor where the Land is too stony: Which shews how necessary it is for a Ploughman to be thoroughly acquainted with his Business; as I shall farther observe.

How necessary it is for a Ploughman to be Master of his Business.—A Gentleman sent me a Letter, which I received in *February 1743-4*, to help him to a Ploughman, that knew how to manage various Soils; and gave me a Commission to offer such a one very large Wages: In order to which, I sent him one that I had qualified for the Purpose, by taking him with me into two other Counties besides

besides that I live in, and made him hold their different Ploughs, and other Instruments, which he was a Stranger to before ; but, as he was brought up to the Plough in our Country, he presently took the Knowledge of others, even in less than two Days time : And when I had made him thus Master of his Business, he was capable of holding any Sort of Wheel-plough, Foot, or Swing-plough, Drill-plough, or any other Plough or Instrument of Husbandry ; which enabled him to plow any Soil, and sow it with any Seed, as the Nature of the Land admits. Now this Gentleman acted more prudent than those who have sent to me for Ploughmen, and tied me down to a mean Price of Wages ; because, according to the Wages, so they may expect the Ploughman to be : And if he is one that is accustomed to hold only one Sort of Plough, he is not capable of plowing various Soils ; for, according to the Nature of the Soil, and its Situation, so should the Plough be. Thus when an unqualified Ploughman comes into a strange Country, and he is to hold a Plough he never did before, and to work a Soil he never was used to, he must consequently be at such a Loss, that before he can get Master of his Business here, he may do his Master many Pounds of Damage. This is a Matter of such Importance, that it concerns all Gentlemen who hire Ploughmen, to work in different Soils, strictly to take care they get them that are capable of managing and improving them ; for upon this Servant's Care and Skill depends the chiefest Part of the Farm's Profit : And therefore, whoever send to me for a Ploughman, that is to be concerned in working various Soils, they ought to give me an Order to allow him encouraging Wages ; and, if he is not already, to get him qualified, as I have before hinted ; then, I am sure, he will answer their Expectation,

pectation, by proving, that, for a little extraordinary Expence, they'll stand a good Chance of getting a great Profit.

CHAP. VII.

Of Sowing Peas in May, Hoeing them, &c.

HOW this Author sowed the great Union blue Pea in Drills in this Month.—I am prompted to write this Chapter with the greater Pleasure, because I am sensible there are many brave Crops of Peas lost on account of Persons Ignorance, who, believing it too late to sow Peas in this Month, forbear to do it; but I assure them it is a wrong Notion, either if they are designed for a green or a ripe Crop. On the 12th Day of May 1744, I drill'd in the great Union blue Pea between my Rows of broad Beans in my Home-cloze, when the Beans were about four Inches high; and on the 31st Day of May, the Peas, having had a Day's Rain on them about a Week after they had been sown, were about two Inches high, and likely to be a good Crop green or ripe.

How a Person sow'd a large white Pea in May, and made a considerable Profit of them.—An early or a late Crop of green Peas is well known to sell for the greatest Profit. A Neighbour of mine sow'd some large white Peas the latter End of this Month, and sold them in September in Pescods or Shells for a good Price; and for this Purpose, I shall hereafter give an Account of a Pea sown in July, that was so forward a Sort, as to yield green Pods in a Garden before Winter.

An Account of the quick Growth of a whitish Pea called the nimble Pea.—I was told that Sir

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Twisden had a Sort of Peas sown in his sandy Land, called the Nimble Pea, that was ripe at seven Weeks End in 1743, being the second Year that this Sort of Pea had been made use of in his Part of the Country: They were sown out of the Drill-plough, and horse-break'd.

The Growth of the excellent Carolina Pea.—

This large whitish Pea, that is ripe early, and almost at one and the same time, was sown in an inclosed Field in Drills out of the Three-wheel Drill-plough in *April*, at two Feet asunder; and about the Eighth of *May* 1744, was horse-break'd for the first time, with one Part of the Breaks Irons, just to stir the interval Ground, and prevent the Growth of Weeds: And a little before they began to blossom, they were horse-break'd a second and last time, when the superficial Mould was turned on the Roots to their great Support and Nourishment; for on the 25th Day, these Peas were fourteen Inches high; and though they were sown in a poor, pebbly, hungry, gravelly Soil; yet by this excellent new Husbandry, performed by the plainest Instruments that were ever invented, this Pea-crop made as fine a Shew as ever I saw in a Field in my Life; for this Horse-break is so ingeniously contrived, that the three small Hoes may be easily and presently taken up, so as not to go too deep into the Ground, or lower'd at Discretion, for causing them to suit a hard or soft Ground: And so the Land-iron may be set wider or narrower, from nine Inches to a greater Width, for turning the Mould to the Rows of Peas, as the Ploughman would have it. Now there are three Sorts of Horse-breaks that I recommend to be made use of, according to the Nature of the Ground; and therefore those Gentlemen who shall think fit to employ me to furnish them with these new and plain Instruments, shall have

have those that best suit their Soil; which is a Matter of great Importance, and ought to have a Regard paid to it accordingly; because on this this very much depends the Success of Pea and Bean-crops. In *May 1744*, I was desired to ride with two Gentlemen about the Country, to shew them some Curiosities practised in the Art of Husbandry; and, amongst the rest, their greatest Admiration was, to see Pea-crops so very large and forward in this Month, that had been sown out of the Hopper of the Three-wheel Drill-plough, and twice horse-break'd afterwards: But they were most of all surpris'd at the Sight of such plain-made Instruments; for one of them had been a Spectator of the very ingenious Mr. *Tull's* Contrivances, and said, his were made in such Nicety of Order, as perplexed the Understanding of a shallow Capacity; and so chargeable and difficult to make and mend, as discouraged many to come into their Use.

Hand-hoeing Horse-beans.—Near *Harrow the Hill* in *Middlesex*, on the 12th of *May 1742*, I saw them hoeing Horse-beans with Hand-hoes, that were set across their stiff wettish Lands by Women, with a sharp-pointed Dibber, in Rows about eighteen Inches asunder; and, being thus twice hoed, they paid their Owner much better than those Horse-beans that were sown and harrow'd in the promiscuous Way; for, as it was a dry Summer, the last was a very poor Crop, by lying shallow in the Ground, and being dried so much by the Sun, as almost spoiled them; while the set and hoed Beans, by lying deeper at first in the Earth, and afterwards being assisted with the Cover of hoed Mould on their Roots, became an excellent Crop. The first time of hoeing, they drew and worked their Hand-hoes along the middle of the Interval; and as soon as the Weeds

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were wilk'd and kill'd, they hoed a second time, by pulling the Earth up on the Bean-roots. Here the Horse-break is not known.

How a Farmer set a Rood of Ground with broad Windsor Beans, and how the Crop suffered by Mice.

—A Farmer having dunged and prepared a Piece of Ground in his Home-close, about a Rood in Quantity, in February, set it with his broad Windsor Beans in Rows, at two Feet asunder; and about the 12th of this Month, had all the Intervals broke with Hoes, when the Beans in his loamy cold Soil and Situation were about four Inches high; but it happened, that good Part of his Bean-crop was spoiled by Hog or Shrew-mice, that bit off the Spire below and above the Surface; which they would not have done so much, had he set the Beans in Rows, contrary to the last Way the Ground was plowed in; but instead thereof, he set them the same Way the Ground was last plowed in, which gave the Mice an easier Opportunity to make their Entrance into the Earth in quest of the Beans, as the Land lay this Way looser than if the Beans had been set across the last Ploughing; for these Shrew-mice having their Heads built in the Snout-fashion, like that of Hogs or Moles, dig and penetrate a loose Ground with Ease: And the Farmer had not Wit enough to set up Tile-traps, to catch them in the Field. Now, to make the most of this Rood of Ground after hoeing, he steeped some more broad Beans, in a Mixture of Urine and Soot, two Hours, which is long enough at this Time of Year; for if they are soaked too long in such hot Liquor, and dry hot Weather should succeed, they will be apt to burn and spoil: He therefore made Drills in the Intervals with a Carrot-hoe of three Inches wide, pretty deep, and laid in his broad Beans to come up as a latter Crop, to sell in their green Pods

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Pods in *August* or *September*. And when all the Beans were laid in the Drills, and covered by Hand-hoes with Mould, he trod the Earth upon them, the better to close it on the Beans, and to keep out the Droughts. In this Part of the Country the Drill-plough and Horse-break was not known.

A Way practised by the Leighton Gardeners when they sow or set Garden-beans in May, to make them come up in the quickest Manner.—When they do this, the Beans are designed to be gathered while they are green, for selling about the Country in the latter Part of the Summer, when they expect a good Market for them. For this Purpose, and that they may come up in the quickest Manner, they put their Seed-beans into a Sack or Bag, that will hold them loosely; for if they are put in, and kept in a tight Posture, they will be apt to swell, and burst the Sack or Bag: Then let these Beans lie and soak in Water from Twelve a-clock in the Day till Six next Morning; for by that time they will be soaked enough to spire quickly after they are in the Ground. But this Practice they never follow, but when they set these broad Beans in *April* or *May*.

CHAP. VIII.

Of Clover.

HOW a Farmer had eleven Sheep killed in a Clover-field, by the Shepherd's falling asleep in the same.

—On *Thursday* the 20th Day of *May* 1742, Mr. B——'s Shepherd bringing a Flock of Weather-sheep from off *Dunstable-Downs* to a Clover-field that lay near the same, he put them into it as usual, but always watch'd and kept them from ranging farther than he desired; and when he thought they had had a sufficient Bait or Bellyful, he drove them out again to the Common, to remain

main here till Folding-time: But it happened on this Day, that the Shepherd fell asleep in the Clover-field, and let the Sheep range all over it at their Pleasure, till eleven of them, by feeding very greedily on this windy artificial Grass, were so near bursting, as obliged the Farmer to have them directly stuck by three several Butchers, which he sent for in all Haste to prevent their bursting. These eleven Sheep were worth fourteen Shillings a-piece as Store-sheep; but, by this Accident, the Farmer made but little of them; for he gave a great deal of the Meat away, and the best he sold for but Six-pence a Quarter.—Therefore beware of the like Danger; for, by such means, a Farmer may lose a whole Flock of Sheep in an Hour or two's time.

How the Author had some of his Cows hosed in Clover, and how he recovered them.—We Chelturne Farmers find it one of the most profitable Pieces of Husbandry to get Clover ready in this Month to feed our Horses, Cows, Sheep, and Hogs, notwithstanding the great Risque we run of losing the Lives of our Cows and Sheep. As to the first of these, my Way is (as I have heretofore described), to give each Cow, the first Morning they are turned into the Clover-field, an Egg-shell full of Tar, as the best Antidote we know of, to preserve them against the ill Effects of this windy Grass: And when once, by the Safety of this Remedy, they have filled their Belly, and emptied it, we reckon the Danger pretty well over of their bursting. However, there is some Danger still remaining, especially in a dewy Morning, or after a Shower of Rain, which increases the hoving Quality of this Grass: And it so happened, that I had now-and-then a Cow hove by the same. But, as we are sensible of the approaching Danger, we watch the Cows the more narrowly; and, upon perceiving

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perceiving their swelling or hoving, we drive them out of the Field, and immediately have the Cow held by the Horns and Nostrils; and with an Horn I gave her three Pints of Urine mixed with an Handful of Salt, and ran her about for a Quarter or Half an Hour; and, when taken in time, it never fails sinking the Swelling, and recovering her; else I had lost several in 1743 and 1744.

CHAP. IX.

Of Weaning Grass-lambs.

OF feeding suckling Ewes for fattening Grass-lambs.

—By *May-day* all Field-turneps are generally eaten off, as well as that Rye which was sown in *August* or *September* last, for feeding suckling Ewes, and their Grass-lambs: Rapes or Cole likewise that was sown last Year for feeding Ewes and Lambs in the Spring-season, is by this time generally eaten off; so that there remains hardly any other Field-food now than natural and artificial Grasses, and green Corn; which obliges the Meadow-Farmer to give over suckling his House-lambs, that now are chiefly out of Season, by reason the Grass-lambs succeed in full Perfection, as having Meat in great Plenty, in inclosed Fields especially: And therefore I shall here give a new Account how we feed our Ewes and Lambs in this Month on artificial Grasses, and green Corn, in order to fat them for Market.

To feed Ewes with their Lambs on green Oats.— This Piece of Management is mostly confined to inclosed Fields; because here we can put Ewes and Lambs in, and take them out at Pleasure in the cheapest Manner, free of the Charge of a Man

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Man or Boy's Attendance to keep them from straying into a Neighbour's Ground; which is what can't be done in open Fields, where several Persons Land and Corn lie together: And therefore that Farmer who rents inclosed Fields, and don't sow Turneps, Rye, Rapes, and artificial Grasses, or some of them, for feeding his Ewes and Grass-lambs, is much wanting to his Interest; for by these, many Chelturne Farmers fat great Numbers of Grass-lambs, which help to pay good Part of their Rent at an easy Rate. Formerly most Farmers were afraid to feed down their green Oat-crops, lest the Cattle spoiled it; but Experience has proved, that this may be done to a great Advantage or Disadvantage: Which being a Knowledge of considerable Consequence, I shall here attempt to shew how the first may be done, and how the last is to be refused.

How to feed Ewes, with their Lambs, to a great Advantage, on a full Crop of green Oats.—To do this, the Nature of the Ground, and the Season of the Year, ought in an especial Manner to be regarded. If the Land is of the dry Sort, and in good Heart, and a kind moderate Season succeeded, for some time, the Sowing of the Oats, those sown in February or March will now shew themselves with broad Blades, in a spreading curling Condition, under a black green Colour, that seems to grow so rank, as to threaten the Farmer with a great Loss, if they are not eaten down in this Month with Sheep and Lambs, by growing so rank afterwards, as to fall and be laid flat before Harvest; and then the Crop will in course be good for little, as consisting of a great deal of Straw, and little Corn; and those Oats that are, will be perhaps but half ripe, half-size, and half in Quantity they would otherwise be. Here the sucking Ewes, with their Lambs, may be turned in

in to graze under the following Preparation : First, a Day or two before they are turned into such green Oats, the Ewes and Lambs should be fed on natural or artificial Grass, that they may be glutted with their Belly-full of Meat, in order to prevent their too voracious feeding on such green Oats, lest they crop and eat them directly down so low as to damage the Crop ; whereas, if they are first fed on Grass, they will either feed on the natural Grass of Baulks, if there be any in the Oat-field, or pick and eat out the Weeds among the Oats ; for if they, through Hunger, crop the Blades of the Oats too much, they should be taken out and shifted into another Field in due time. Secondly, In case the Spring has hitherto been attended with Frosts, or Chills of cold Rains, so that the green Oats are very short indeed, the Ewes and their Lambs should be kept out till they have acquired a Head capable of sustaining their Bite without Damage ; then a Farmer may enjoy a fine grazing Crop, without (if he takes care accordingly) hurting his Oat-crop ; which will be an extraordinary Profit to him, even (it may be) to the Value of ten or more Shillings an Acre ; for by such a plentiful Feed at this Time of Year, the Farmer's other green Meat is saved, and made to hold out the longer hereafter, under the Feed of Sheep and Lambs, or other Cattle, the Ground cleared of choaking pernicious Weeds in the cheapest Manner, and greatly enriched by the Stale and Dung of the Beasts, and the Oat-crop by this means forced on in a quick, rank, branching Growth, that very likely will produce not only a greater Quantity of Straw than ordinary, but likewise perhaps Quarters enough of full large Oats, of every Acre so fed and improved. This Case shews the Excellency of dunging and manuring Ground in full Perfection for a Wheat or Barley.

Barley-crop; because, by so doing, the Land is got into such Heart, as to bring on early full green Crops of Oats fit to feed the Ewes in this Month, and breed Abundance of Milk in them, for fattening their Lambs with great Expedition. The Lambs also are hereby tempted to feed on the green Oats and Weeds; which being a fresh Bite, and a new Food, they will greedily eat, and meet with Plenty of Milk besides. But these are not all the Advantages accruing from an early full Crop of green Oats; the Ewes, at the same time, will get themselves forward in Flesh, so as to fatten the sooner for Market after the Lambs are weaned off; or, if they are to be kept on longer as Store-sheep, they will take Ram the sooner, and be the better enabled to withstand the Severity of a hard Winter. Now this great Improvement that is to be thus made by obtaining an early full Crop of green Oats, happens more surely to those Farmers who dung their Land directly for an Oat-crop, and not for a Wheat-crop, as many observe to do in *Suffolk* and *Essex*, &c. to prevent Weeds and Smut happening to the Wheat-crop; for Oats sown under this Management are not in danger of being hurt by Weeds, because they may be fed off by Sheep and Lambs, as aforesaid: And if they are not check'd this way, the Oat-crop in such rich Ground will surely overcome, and keep down the Weeds: But, as there is a bad Property belonging to this Sort of Husbandry as well as a good one, I shall, in the next Place, endeavour to give some Account of the same, for the better preventing Persons falling into the too common Mistake of feeding a good and bad Crop of green Oats in one and the same Manner.

The great Disadvantage that may attend feeding Ewes and Lambs on a bad Crop of green Oats, &c.
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and write of the great Loss a Person is liable to suffer, who imprudently feeds his Ewes and Lambs on a poor Crop of green Oats. When Oats are sown on a lean dry Soil, the Corn has enough to do, without any checking, to grow into a tolerable Crop, though a propitious Season of Weather attends it: Wherefore, if a Farmer should be so silly as to turn his Ewes and Lambs in here, to feed on the green Blades of Oats, it is ten to one odds, if he does not ruin his Crop by it; because the Oat-roots in such a barren Soil have not a Fund of Fertility to bring and push on a Regrowth of their Stalks and Blades, sufficient to overcome the Weed, the Slug, or the potent Heat of the Sun, in a long dry Time; as has been the very Case of many ignorant Persons, who, for want of Plenty of other green Meat at this Time of Year, have presumed on the Assurance of a plentiful Crop of Oats, notwithstanding they have fed them down in a poor Soil with their Ewes and Lambs; and so have brought themselves under a Loss of almost the whole Crop of Oats. This Case likewise affects those Farmers who, having set on an Oat-crop in a clay or stiff loamy Soil, venture to feed their Ewes and Lambs on the green Blades, though the Weather be so wet as to cause them to tread and graum the Oats with their Feet, and thus do them more Damage than with their Teeth. These are two extreme Pieces of ill Husbandry, which ought to be avoided by all prudent Farmers, lest they ruin the greatest Part of their Oat-crops. The best Way then is certainly to feed a Crop of green Oats with Sheep and Lambs, before the Stalks are high enough to be on the Spindle; and when Oats grow in a dry rich Earth, or when they grow in a stiff Soil, and are fed in dry Weather, while the Ground is in an hard Condition, there may abundance of Profit

be got by it, and yet do the Oat-crop more Good than Harm, provided the Ewes and Lambs are not kept too long in one and the same Field of green Oats; if they are, it may rather retard their thriving than forward it; for all Field-beasts affect fresh Bites so much, that nothing pleases them better, nor causes them to thrive faster, according to the old Maxim, *Change of Pasture makes the Calf fat*. It is therefore, that we carefully observe to take the Ewes and Lambs out of such a Field of green Oats, before they have bit it down too low, and put them into another; and so shift them from Field to Field, as we perceive the Growth of the Crop, and the Dryness of the Ground, will admit. If it is a rich Ground, and a forward full Crop, seven Couples are enough to turn into a Four-acre Field of green Oats, as our usual Stint is; then, if they are not kept here too long, the Lambs will thrive apace: But, of all Degrees of Growth, if the Oats are upon the Shoot, no Sheep nor Lambs ought to feed on them, lest their Bite cause the Stalk to bleed, or run out its Sap; and then a good Oat-ear can never succeed. Again, if Oats grow thin, Ewes, with their Lambs, ought not to be turned into them at all; because where green Meat is scarce, they will bite too close down: And if wet Weather happen in the Time, they'll do Damage, as I said, with their Feet.

Of fattening Lambs in fallow Fields.—This may be done with good Success; but then the Ploughing-part must be let alone till late, even till the latter End of this Month; and where the Ground is not of the stiff Sort, it may answer well enough; but where the Land is of a clay or stiff loamy Nature, it is a dangerous Undertaking; because, if a wet Summer succeeds, the Earth cannot be got into a fine Tilth against the next Wheat-sowing Season; and then the golden Crop is attended with a greater

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Risque of spoiling than ordinary: But there are great Numbers of Grass-lambs fatted this very Way on only the Grass and Weeds that grow in inclosed arable Fields, in a most cheap Manner, and very early; for Weeds grow up apace: And by shifting the Couples in due time into fresh Bites, the Lambs will thrive at a great rate, if the Ground is not over-stock'd.

Of Weaning Lambs on green Oats.—Others reserve their green Oat-crops purely for weaning their Lambs; for when they are taken from the Ewes, and turned in here, they will feed and pick out the Weeds, and will hardly meddle with the Oat-blades till they are gone; and then they will feed on the Oats, and fat fast, if they are shifted into fresh Bites in time, and be thus got ready for Market, or for making Store-sheep of them.

Of Weaning Lambs in Pea-fields.—This is so new an Undertaking, that few, very few, dare venture on doing it; because they are afraid the Lambs will bite off the Heads of the Peas, and spoil their Crop. Those that do this, should be Occupiers of a dry Soil, such as a Gravel, a Chalk, a sandy Loam, or an intire dry Loam, that is kept in rich Heart, capable of pushing forward the Growth of some Crops with great Expedition: And even then, but few Lambs must be turned in, after they have first had their Belly-full of Clover, or natural Grass, to prevent their falling-on and eating the Pea-heads; which they will be apt to do, if turned-in hungry; otherwise they will feed on and pick out the Weeds, before they will meddle with the Peas: But if they should chance to bite off here-and-there an Head, they will grow again, and branch the more for being bitten a little, with this Caution, that Lambs ought not to be kept long enough in the Field to feed hard on the Pea-heads and Stalks, lest they
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venom them, and cause the Loss of so much of their Sap, as will weaken their Growth always after. If Lambs are to be weaned on young Pea-crops, they should be of the Hog-sort, and that are to stand till they are full ripe. It was the sixth of *May* 1742, when our Pea-crop was fit to receive the weaned Lambs; but in some very warm, rich, dry Soils, Lambs were put in on the twenty-fourth Day of *April*.

Feeding and fattening Ewes and Lambs among Beans, &c.—This Piece of Husbandry is performed more in Vales, than in *Chelturne* Countries; because they generally sow far greater Quantities of Horse-beans in the former than in the latter; which give the Farmers an Opportunity to feed their Ewes and Lambs among their Beans, from a very short Growth to Blossoming-time: And, in some favourable, warm, wet Springs, they'll feed and fat on eating the Curlock-weed, the young Thistle, the Poppy, the wild Mustard, the Chickweed, &c. and Grass, notwithstanding they are folded every Night; for, in most Parts of Vale-Lands, their Commons have so rich and fertile a Grass Turf, as to fat their Beasts surprisingly fast. Thus, with what their Ewes and Lambs find to eat between their large Crops of Beans, and on the fine hearty Grass of their Commons, both Sheep and Lambs oftentimes become fat enough, and are sold to the Butcher. It was the fifteenth Day of *May* 1744, before the *Ailsbury* Vale-Farmers suffered their Flocks of Sheep and Lambs to go into their Bean open Fields, to feed on the Weeds that grew amongst them; for their Horse-beans were not above three or four Inches high at this Day, by reason of this backward, cold Spring-season.

Feeding and fattening Ewes and Lambs in Clover and Trefoil, &c. In this Month, Clover, Trefoil, and Ray-grass, are in their greatest Heart; and as
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their Stalks are large and very succulent, they yield abundance of rich Juice to suckling Ewes, that creates great Quantities of Milk in their Bags, which feeds and fats Lambs with the greatest Expedition; and was it not for the dangerous hoving Quality that attends Clover-grass in this Month, it would be the most profitable Sort of all artificial Grasses. On this account, the suckling Ewe escapes better than the Ram and Wether; for these never have so soon as they; yet I can't say they are free from this Danger; because, if due Care is not taken at first to give them their Belly-full of natural Grass, just before they are turned into the Clover-grass, it may likely become fatal to them. Now, to prevent this Misfortune, our most judicious Farmers sow Trefoil amongst their Clover; and some add Ray-grass, which, in a very great Degree, secures the Sheep and Lambs from hoving: But where Trefoil grows in an untire Crop, the Ewes and Lambs feed in more Safety, and fat at a great rate; because this Grass yields a very pleasant Juice, that produces an excellent Milk, and a great deal of it; insomuch that both Ewes and Lambs will fat here faster than in any other artificial Grass, and become very sweet Meat, provided they are put into the Field of Trefoil, while it is in its young Growth; for when this Grass is old, its Stalks and yellow Blossoms get rankish, and tincture the Milk of the Ewe, and the Flesh of the Lamb, with a little bitterish Taste. This delicate Grass-seed I sow every Year in its black Hull, and not in naked Seed; for, in this Condition, it will keep sound longest, either in or out of the Ground: Therefore those who think fit to send to me for this Sort of Seed, shall have it sent them in the Hull, and of the last Year's Growth.

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Why Trefoil-seed is best sent in its Hull to distant Parts.——Trefoil-seed may be sent to great Distances in a pure sound Condition, while it is in its black Coat or Hull, without the Danger of heating and spoiling; because, in its Hull, it lies very hollow; insomuch that we commonly sow two Bushels of it in its Hull on one Acre of Ground; when, if we sow the Seed naked, we sow twelve Pounds on one Acre. Thus a Five-bushel Sack of Trefoil-seed, in its Hull, will be about equal to thirty or forty Pounds Weight of naked Seed: Which plainly shews the great Disproportion of the Seed's lying in a Sack or Box, in its naked and hully Condition: Therefore, whoever has the naked Seed sent them to a great Distance, is in Danger, by its close lying, of having it heated and spoiled. And how much it concerns Persons to get a right Sort of Grass-seed, very much appears by St. Foyn-seed; which after one Year's Growth (though kept in its Hull) seldom grows; but there are several other good Properties belonging to the Trefoil-seed kept, and then sown, in its black Hull; on which I have formerly written.

Of the Number of Ewes and Lambs, and the Time an Acre of Clover or Trefoil will fat the Lambs in.——This every Farmer ought well to consider and know, before he turns in his Ewes and Lambs to graze and fat; for on a proper Management of these Grasses, and that of the Ewes and Lambs, very much depends a great deal of his Interest. If he overstocks the Grass, he does himself a Damage; for these should not be eat too close down for the first time; if it is, and a dry Season succeeds, it will greatly check its Growth: But if it is then fed down about half-way, there will be a sufficient Shade left for lodging the Dews, and for recovering this first Bite in a little time. Here then lies great Part of a Farmer's Profit; if he
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shifts his Ewes and Lambs out of one Field into another, or hurdles out a Piece of Grass in the same Field, so that the Couples may enjoy a fresh Bite in due time, one Acre of Clover or Trefoil-grass may feed six Ewes and Lambs, and fat the Lambs off in about six Weeks time; whereas, if this Number were to be kept on one Acre of Clover till it is eat up bare, it would backen their Fattening, and cause the Farmer to lose the Benefit of most Part of his Grass. Again, there is also this Difference attending this sort of Management; one Acre of these Grasses will fat six sucking Lambs, if they are shifted in due time, as well as it would four sucking Lambs, if they are fed on no other Grass. As to what Mr. *Worldge* mentions, relating to Weaning Lambs, in order to put their Dams Milk to another Use, is, I suppose, meant for making Cheese with the same; which they do in some Parts of *Wales*, where they stand or sit behind the Sheep, to milk them. But this is practised in no Place in *England*, as I know of: For in this Part of *Great Britain*, Ewes Milk is put to no other Use than to suckle House or Grass-Lambs; which not only brings in the profitable Penny to the Farmer, but likewise affords the Nation in general a pleasant Opportunity of enjoying their delicate Flesh at a cheap rate in this Month, when it is in its greatest Plenty.

C H A P. X.

Of Gelding Grass-Lambs.

HOW Grass-Lambs have been gelt in this month, and the Consequences thereof.—In my former Works, I have written on this Article, how this is performed by drawing out the Stones with the
H Teeth

Teeth of a Man. But I shall here give another particular Account of gelding Lambs; viz. as to the Time of Gelding, it varies according to a Person's Conveniency and Fancy: For, first, some Farmers geld their Lambs as soon as the Ewe has done licking it, believing it to be the safest Way because the Creature suffers the least Pain while the Strings of its Stones are smallest and tenderest and capable of Separation on a little pulling with the Teeth. Secondly, others refuse to geld them so soon; alleging, when Lambs are just weaned it commonly happens to be very cold, frosty, snowy, or wet Weather, in the short Days, and long Nights; which exposes these young Beasts to the Severity of such Weather, that oftentimes kills many of them ungeld, much more when they are, as being less able to bear it: Therefore, they stay till they are a Week old, which many think the best Age, of all others, to geld Lambs at for Safety. Thirdly, others again refuse to geld them till *Easter*, let it fall sooner or later; because the Spring is by this time a little advanced, and the Picking of Grass is now generally to be had in mild Weather, both on Commons and in Fields, which being an additional Feed to the Ewes Milk it is the more Security against the Lambs stunting or dying by the Operation; for Gelding, at any time, brings the Lambs under an Hazard of their Lives, at least a Checking of their Growth. Fourthly, others again will not geld these Lambs till *May*; because then there is full Meat in the Fields and are, at this time of Year, grown almost to a Sheep's Bigness: But when this is the Case, the Castration must be performed by the common Gelder with his Clasp-irons, and by fear- ing the Cod, at the Price of one Penny each Lamb. This Piece of Husbandry I have known done on the tenth Day of *May*. But I have this to add, by way

of Consequence, that, for my own Part, I refuse this Sort of Gelding by the common Cutter or Gelder, because of the many fatal Effects that have succeeded such Operation. A Neighbour of mine has had his Lambs gelded two or three Years together after this manner; but is now weary of it, because he has lost several Lambs by being gelded, late in *April* or *May*, with Claspings-irons; whence, notwithstanding the Gelder's Application of a blue Powder and green Ointment to the seared Cod at the same time, several of his Lambs have died in the Years 1742 and 1743: So that, in this Case, neither a full Bite of Grass, nor the Warmness of the Weather, could save them. Wherefore, I chuse gelding Lambs, by first cutting off the Tip of the Cod, and drawing out their Stones with a Man's Teeth, at one, two, three, or four Weeks old: And then I immediately put in a little Hog's Lard or fresh Butter, or only some Salt, into the open Cod, and it is done with; besides cutting, at the same time, a little Bit of the Lamb's Tail off: But then this Precaution should be strictly observed, that such Sort of Drawing-gelding ought to be performed before the Buds of the White-thorn appear full, lest the Lambs eat them, and get spotted on their Cods: Then, indeed, their Condition is too hazardous for them to be gelt by Teeth-drawing, as being more safe for the Creatures Lives to keep them on till *April*, or this Month of *May*, and geld them by Claspings-irons. However, let the Gelding be done at any time, the Lambs in very cold, or in very wet Weather, should be housed for the first Night or two afterwards.

C H A P. XI.

Of Weeding in May.

A farther Account of Weeds and Weeding, than what I have heretofore published.

HOW a Wheat-crop was weeded, while in its green Ear.—I have formerly written much on weeding Corn; but, for all that, I doubt not but there are many Secrets behind, that are not yet come to my Knowledge. The latter End of this Month they were weeding Wheat Knee-high, when Part of it was shooting out its green Ear. A Person going through one of their Fields in Nottinghamshire, asked the Weeders why they trod down the Wheat while it was so high; but they made a Piss at it, and said, it would rise again by-and-by. But, by-the-by, these were a sort of wretched Husbandmen, that defer weeding their Wheat till it is on the Shoot; for although it has a Chance of rising again, if fair Weather succeed, yet the Bruising of the green Stalks by the Weeders Feet checks the free Ascent of the Sap, and greatly damages the Crop; which is what most of these Peasant-People have no Notion of: Besides, in rainy Weather, for some time, should happen to follow such Weeding, the trod-down Stalks would many of them, be apt to remain to the last in such a couchant Condition; and then there would be a fine deal spoiled indeed! Therefore, I think, the Farmer, whose chiefest Interest depends on his Wheat-crop, should be Master of more Wit and Conduct, and prevent such great Prejudice, that must certainly happen by Weeding, when Wheat is in its green Ear.

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How a Wheat and Barley-crop was spoiled by Weeds, &c.—On the Third of July 1743. I had some Sheep strayed from the rest of my Flock on *Gaddefden Common*; upon which I sent my Servant in Search of them, who travelled some Miles before he found them. In his Way, he told me, he met with a dismal Sight, even that of a very poor Wheat and Barley-crop, that grew on a dry husky Chalk and Gravel. Here it was, that great Quantities of those pernicious Weeds grew, called Clap-weed and Poppy-weed: The first bears a white Blossom, and branches out in great Numbers of Stalks, draws a great deal of the Ground's Goodness to maintain its Growth, and takes up much Room, to the killing of the Corn that grows near it: The red Poppy likewise is as bad a Weed as this, because it has the same fatal Effects; so that both these Weeds (notwithstanding the Use of the common Weed Hand-hook, employed in May, to check their Growth) have such deep Possession of the Ground, as to become rampant by this time, and do a great deal of Mischief both to Wheat and Barley-crops, in these sort of dry Soils; insomuch that, what with the Effects of a long dry Spring-time (for it had not rained for several Months, till the Beginning of June), and the furious Growth of these two Weeds, that got the Dominion of the Corn, the Farmer-Owner had hardly any good Grain this Year, except Peas; and these were, almost every where, a full Crop; while in Vales, and in most Parts of *Chelturne* Countries, there was the best of Wheat and Barley; for these were so plenty, that Wheat sold, till May-day, for less than three Shillings a Bushel, and Barley for less than two. Now, here there are no less than three several great Farmers, that live almost together, most of whose Land is of a chalky and gravelly Nature, and subject, in very dry

dry Summers, to this Misfortune ; and the more, as the Weeds get old and more numerous : And this they do, because their common Two-wheel Plough is not capable of extirpating all the Roots of Weeds ; which, with the Hand Weeding-hook, is all they have to trust to, for destroying their Weeds. This leads me to observe, how wanting these three Farmers are to their own Interest, who, though they are justly accounted some of the best of Farmers in the Country they live in, for managing after the old *Virgilian* Way of Farming ; yet so short are they of the main Point, as to be very great Losers, in very dry Summers, by their Wheat and Barley-crops being thus damaged by Weeds ; which may be most easily prevented by the Use of the Three-wheel Drill-plough, Horse-break, and *Dutch* Hoe ; by the Drill-plough sowing the Wheat and Barley-seed in Drills at a Foot asunder, and hoed once or twice afterwards by the dispatching *Dutch* hollow Hoe, which excellently well performs a great deal of Weeding-work in one Day by a Man's Hand ; or by sowing Wheat or Barley out of the Hopper of this most valuable Plough, without any Hoeing at all for the rest of the Year, by a particular Method I informed all those of, that I furnish this Drill-plough, Horse-break, and *Dutch* Hoe to ; which are Instruments that destroy all Sorts of Weeds in the cheapest manner possible ; and, by this means, will so nourish a Wheat or Barley-crop, in the driest Seasons, in chalky, gravelly, and sandy loamy Grounds, that there is no great Hazard of the Farmer's having full Crops of Wheat and Barley in them. By this very Case, I take the Opportunity of touching upon the obstinate Ignorance of some Farmers, and the great Advantage they miss of, in not adhering to and practising those Improvements that might be most plainly made appear to the Capacity of

of a mean reasonable Rustick. The obstinate Ignorance of some, if not most Farmers, is so well known to most Gentlemen Landlords, that to them there needs no Information how Antiquity and Custom govern their Actions, and prevent their embracing any new Improvement in Husbandry; though it would certainly be to their very great Advantage, even to the Saving of some from Breaking and Ruin: Witness the present Case, which plainly shews, that if a poor Tenant had nothing but his Corn-crop to trust to for paying his Rent, in so cheap a Year as this was, 1743. when Wheat, as I said, sold for two Shillings and Six-pence a Bushel at *Hemstead* great Market, and Barley for less than two Shillings, how must he be able to remain in his Farm, and have no more than five Bushels of Wheat upon each Acre, as my Man verily believed was the outside Quantity that grew in an Eight-acre chalky Field of this Farmer's, notwithstanding he plowed and dressed his Ground in Perfection before he sowed his Wheat-seed? For I know this Farmer is never wanting in performing these two main Branches, which occasions him in wet Years to have plentiful Corn-crops; but, in very dry ones, the Manure, or Dressing, is apt to do more Harm than Good, pecially if Soot, or other of the powder'd Sorts, are laid on the Wheat late in the Spring-time; for then it helps to burn up rather than assist the Corn-crop; which Damage, added to that of the rampant Weeds, whose fertile Growth, in such dry Soils and Seasons, being little or nothing impeded by the Corn-crop, have the greater Power to rally and keep down the Thriving of the Wheat; whereas, if such a Farmer was but to break his Pea-crop, that is, if he would only sow his Peas in Drills, and draw the new-improved Horse-break through the Interspaces one or twice in a Summer,

this

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This most excellent Instrument (if it is made in right Order, with the late additional earthen Iron) would destroy the most potent Weed that grows, and, by this very means, prevent Wheat and Barley-crops from being afterwards damnified by their Arch-Enemy the Weeds.

C H A P. XII.

Of the Polype Water-animal, and other Insects, with Accounts relating to their wonderful Properties.

AN Advertisement printed in the Northampton Mercury in November 1742.—“ From the
 “ Paris A-la main, November 22. 1742. The third
 “ Memorial that Monsieur De Reaumur read the
 “ 13th Instant, at the Royal Academy of Sciences,
 “ relates to a very curious Discovery that has been
 “ made at the Hague, by Mr. Tremblay. It is an
 “ aquatick Insect, called a Polype, which has
 “ this Peculiarity in it, that, when it is cut into
 “ several Parts, each of those Parts produces of
 “ itself, in the Space of twenty-four Hours, what
 “ it wants to form a complete Body; so that this
 “ Insect being cut transversely in three Parts, the
 “ Part belonging to the Head will produce a Tail,
 “ and the Tail a Head, and the Middle a Head
 “ and Tail. Some of these Insects have even been
 “ cut transversely into forty Parts, which each
 “ produced what was wanting in it to make a perfect Insect; so that of one Polype, perhaps,
 “ forty were made. If they be cut through the
 “ Middle, from Head to Tail, each will produce
 “ another. On this Occasion, Monsieur de Reaumur made several learned and judicious Observations;

" vations ; particularly, that as it is an Axiom,
 " that Nature is not singular in its Productions,
 " so there must be other Insects susceptible of the
 " like wonderful Productions. He reports, that,
 " by Experiments already made by him, he has
 " discover'd certain Earth-worms that have the
 " same Properties; but that Nature operates in
 " them in a much longer Space of Time."

*Of the great Importance of knowing the Nature
 of Water-insects.* — Although this Knowledge
 highly concerns Gentlemen, Farmers, and others
 who live in the Country, and keep Cattle; yet it
 has been so little taken notice of by rustic Au-
 thors, that, I presume, few Persons have regarded
 it to any Purpose: And therefore I thought a more
 ample Discourse of this Nature so perfectly neces-
 sary to employ my Pen in, that I could not dispense
 with an Omission of it, considering the infinite
 Damage that Beasts are liable to, which have no
 other Water to drink throughout the hottest and
 driest Summer than that of stagnating Ponds and
 Ditches; or when, through a customary Mistake,
 Persons prefer such nasty unwholsome Water to
 that of a River or Well-fort, when it is in their
 Power, at the same time, to chuse the latter, and
 refuse the former. But, before I come to treat of
 the dangerous Qualities of such Pond and Ditch-
 waters, and of the Animals and Insects that breed
 and live therein, I shall first give an Account of
 the Nature of the Polype Water-animal, whose
 late Discovery, by the celebrated Mr. Trembley at
 the Hague, by Mr. Reaumur at Paris, and by Martin
 Folkes, Esquire, President of the Royal Society,
 and Mr. Baker, at London, has surpris'd all that
 hear and read of it; because it proves to be of a
 Nature contrary to the common Course of Nature,
 and the received Opinions of animal Life, to a
 Degree that People, as the learned Mr. Baker ob-
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serves, look on the Natural History of it as ridiculous Whims, and absurd Impossibilities: Yet the plain and repeated Experiments that have been visibly made of the Polype, before many curious Gentlemen, Virtuofos of the Age, have sufficiently evinced the Reality of what Mr. Baker has made Trials of; and wrote the same in his Treatise, intituled, *An Attempt towards a Natural History of the Polype*; printed in the Year 1743: Which leads me to make some Observations of the same.

A particular Account of the Nature of the Polype.

— Mr. Baker, in this his Treatise, remarks, that that curious Observer of Nature, Mr. *Leeuwenhoeck* first took notice of this Water-animal, and the uncommon Way its young ones are produced, in the Year 1703. But the amazing Properties of it were more fully found out by the said Mr. *Trembley* in 1739. who discovered it to have a greedy voracious Appetite, and a singular Dexterity in catching, mastering, and devouring Insects and Worms, though much larger and stronger than itself; since which, by Mr. Baker's cutting Polypes into Parts, several Hundreds have been produced in London between *March* and *August*, by three that were sent over to London. But, besides these three Dutch Polypes, there have been six *English* ones found since in a Pond at *Hackney*, and seven or eight smaller greenish ones in *Essex*. Of these Polypes there are several Species, that render themselves ten or twelve times longer at one time than another; for this, Worm-like, can contract or extend its Body at Pleasure, by fastening the End of its Tail to the Bottom or Side of any Vessel it is kept in, or to the Stalk or Root of Duck or other Weeds in Ponds or Ditches; from whence it generally stretches out its Body downwards; and sometimes crawls, by the Assistance of six, eight, ten, twelve, or fourteen Horns, or white Arms, no

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thicker than the Threads of a Cobweb, that incircle its Head, with which he feels for, and takes his Prey ; for the Virtuofos, with the nicest Microscopes, cannot find it has any Eyes ; but some with so short a Body, when extended, as hardly to exceed a Quarter of an Inch in Length ; and so little, when fully at Length, that it may be compared to the Thickness of a Hog's Bristle ; as these were, that were taken in *Essex*. Others, that were first sent over by Mr. *Trembley*, had Bodies an Inch and an half long, when extended, tho', when contracted, not exceeding one Tenth of an Inch : And yet the *Hackney* and *Essex* ones were smaller at first taking than these. But those last sent over by that Gentlemen in *July* with Tails, though their Bodies were no longer nor larger than those of the other Species, yet had Arms that surprisngly extended to several Inches. The Number of Foreign Polypes Arms are commonly from eight to fourteen ; the *English* ones from four to ten. The first sort have been seen to extend their Arms nine or ten Inches deep in a Glass Jar of Water ; and the last three or four Inches ; which they row and wave about in Ponds and Ditches for making a circular Motion to form a Current, that sometimes brings along with it many small Insects, which they catch and prey on. Some Polypes have been seen to shorten their extended Bodies, not grosser in that Condition than the smallest Straw, to the Thickness of a Goose-quill, and to the Shortness of a Quarter of an Inch, in one Moment's time. But such large Polypes are said to be very rare ; for that they are seldom seen above an Inch long in their longest State ; and then, as I said, no bigger than a Hog's Bristle. These small fresh-water Animals have been brought over to *England* in Phials of Water stoppt with Corks, and afterwards

kept in open round Glasses of soft Water a long time, by feeding them with Worms, and taking the Polypes out with a Quill-scoop every second Day, for renewing the Water, and cleaning the Glasses; otherwise the Excrement that they void, the gross Parts upwards, and the fine Parts downwards, would form a slimy Sediment, and may become fatal to them. Here they will live, and feed three times a Day, or without Food for some Weeks or Months; and may be seen in their many different Postures, how they fix their Tail to the Side of the Glas, and extend their Bodies to seize a Worm, which can hardly escape, if the Polype does but touch him; for then it is immediately grasped with his long Arms; for he is Master of such an exquisite Sense of Feeling, that if a Worm touches the least outward Part of his Arms, he seizes it with as much Fury as a Cat does a Mouse, and soon entangles it to its Destruction; for tho' the Worm is far larger, and seemingly stronger, than the Polype, yet, as *Mr. Baker* observes, he is quickly killed and presently eaten by him; which Sight affords a fine Entertainment, to behold the Dexterity of the Polype in mastering its Prey, and the Art with which it evades and overcomes the greater Strength and Agility of the Worm. These Polypes may be found in many Ponds and Dithes in *England*. And, for finding them, Stones, Sticks, Stalks and Roots of Water-plants, or any other Thing lying below the Top of the Water, if tenderly taken out, and put into large Glasses of Water, and there be any Polypes among them, they may be seen hanging by their Tails, Leech-like, in a gentle Motion of their Bodies; for as these are little or no Swimmers, they are seldom loose in the Water, and therefore are not easily found by taking up clear Water in a Pail or Bowl; yet they

they sometimes crawl to, and hang by their Arms on the Top of the Water with their Tails downward; and sometimes lie at Length on the Top of the Water, in order, as it is supposed, to catch some Prey, particularly in Ditches, for taking some Sort of Flies and Insects. The Polypes, says this ingenious Author, produce their Young different from the common Way of all other Creatures yet known; for, having no Distinction of Sex, every one of them is prolific, as much when apart as when in Company. The young ones come out of their Parents Side, not bigger than a Pin's Point; and in a Day or two put out Arms; and in time separate from it: Four or five at a time drop from the old one's Body, and then others succeed; and, what is very strange, the young ones frequently breed others, and these others again, to the Re-production of a third or fourth Generation, before the first parts from its original Parent; and thus are found to be of such an increasing Nature, that, as this Gentleman observes, a thousand may be bred from one Polype in a Summer. But the most wonderful Part of all is, if the Head Part of a Polype is cut off cross-ways, it will seize a Worm as soon as offered it; and it has swallowed as much as the Piece of Body can contain; and in one Hour's time play'd its Arms, and in a few Days produced a Tail. A Polype cut across in three Pieces with a Pair of Scizzars, as it lay in a little Water on a Sheet of Paper, and immediately put into a Glass of Water: In eight Days time they have recovered themselves, and been three distinct complete Polypes, though the middle Part, at cutting off, was no bigger than a midling Pin's Head. And, what is likewise extraordinary wonderful of this Creature, Mr. *Baker* gives an Account of a large Polype, that was turned
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inside out, by his first distending its Body with a larger Worm, given it for the Purpose, than it could swallow; which with the Head-part of a Pin (the Point whereof was stuck in a small Stick) he pushed the Tail inwards, that caused all the Worm to come out of the Polype's Mouth; and yet the Polype lived. He says, Mr. Trembley has turned many, which yet lived, thrived, and produced many young ones in that inverted State. There are Hundreds of other curious Matters relating to this small Water-animal, with numerous Cuts, contained in Mr. Baker's Four-shillings bound Book; which, he says, he wrote to vindicate the Truth of them, as having proved divers of them by visible Experiments; and to display before Mankind a new Instance of the amazing Power of the Creator. But, he says, there are some Persons, who, though real Facts are incontestable Arguments, sometimes disbelieve even what they see. Others, says he, there are, who, though convinced of Facts, remain dissatisfied; unless all the Steps whereby those Facts are brought about, can be mechanically described, and a Reason assigned for them. Hence it comes to pass, says he, that some, who have been Eye-witnesses of the Cutting and Re-production of these Creatures, and have no Doubt at all remaining, as to the Reality of what has been related concerning them, are yet frequently inquiring how their wonderful Faculties can be accounted for, and wherefore they are bestowed on this Animal. To which Mr. Baker answers — No otherwise, in my Opinion, than by resolving them into the Will and Pleasure of their Almighty Creator; which I likewise believe the most reasonable Way of accounting for the Qualities and Properties of most other Things around us. When a Twig is cut off, and by planting in the Earth becomes

becomes a Tree of the Kind whereof it was a Part ; Can we account for its becoming so, any thing better than we can for the like Effect in a Polype ? A Cutting of a Vine, Curran, Elder, Arbel, Poplar, Willow, or Alder ? Will not their Boughs, or Pieces of them, grow, if stuck in a proper Earth at a proper Season ? &c.

Of the poisonous Nature of the Polype, and other Water-insects ; and of the Waters they breed and live in. — As there are many Sorts of small Water-animals and Insects, that breed and constantly live in Ponds and Ditches, whose several Natures (it is supposed) vary according to their different Species ; it would be very satisfactory, and I believe very serviceable to Thousands, if their good and bad Properties could be discovered, that Persons may thereby be the more induced to avoid the worser Sort of them ; for at present, few, very few of the Farmers in particular, will entertain hardly any Notion of the Prejudices that may happen to their Cattle by drinking black, foul, and muddy Waters, nor of the many Sorts of Insects they abound with, which their Horses, Cows, Swine, &c. very probably swallow at their watering ; till they are made sensible of their mischievous Natures by the most glaring Proofs ; for, till then, they will not be dispossessed of their antient tenacious Opinion, that such Water is preferable to all others for this Use : Because, say they, this foul Water is of a warmish and nourishing Nature, by means of the unctuous and sulphureous Qualities of the Dung and Urine that are washed into it by the frequent Fall of Rains, that thus deliver the Cattle from the Danger of Gripes and Belly-ach, which clearer Water (the Spring Sort especially) may subject them to ; and likewise, because such Water lies nearest the Farm Yard,

Yard, that consequently makes it less troublesome to come at, than a clearer Sort in a Pond, situated at a greater Distance; without considering the worse Part of such stagnating foul Water, and that of the Insects they are furnished with. In order therefore to make my Endeavours tend towards removing this grand, and sometimes fatal Mistake, I shall here give a short Account of what this nice Virtuoso Mr. *Baker* remarks, relating to the venomous Nature of this little Water-animal, the Polype; who, at Page 32. has these Words. —

“ We shall never, perhaps, be able to discover certainly, by ocular Demonstration, whether the Mouth of this Creature is really armed with Teeth; but we may conjecture it so to be, from the Ease wherewith it bites or breaks the Skin of a Worm, in order to suck the Blood and Juices; as, if the Worm be large, it is constantly found to do, till the Body is reduced to a Size capable of being swallowed. There is, likewise, a further Probability of its having such offensive Weapons, from the violent and painful Agonies a Worm expresses the Moment it is taken Hold on by the Polype’s Snout, and from the sudden Death that follows; which considering the Nature of a Worm, and the Difficulty of killing it by pricking it, or even cutting it in Pieces, would almost incline one to imagine, there must be something poisonous in the Bite; and that the Polype, as well as the Viper, does not only bite, but even inject Venom into the Wound it gives, for the more speedy Destruction of its Prey.” Which Kind of Death to the Worm is somewhat analogous to that of a Toad and a Bee; when a Spider kills the former leisurely, if he cannot enjoy his Plantane Antidote; and the latter suddenly: For as soon as a large Humble-bee is intangled in a

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Web, I have seen a Spider directly march towards him, and, seemingly, by putting his Mouth to the Bee's Mouth, presently ensued its Death; which, I suppose, was occasioned by the Spider's injecting a Poison into the Bee: For, as Mr. Baker observes, we have no way of coming at the invisible Causes of Things, but by arguing from their visible Effects. But, to return to the Water-insects: On the 20th Day of *February* 1743-4: I sent my Servant to my Neighbours Ponds for Water, to discover what Insects I could in it; and from a little Pond, where there was little Water, I perceived in a Glass of it, many live Creatures, that appeared to the natural Eye as big as very large Lice, and mostly of their Shape, with very white Bodies, and a bright red List along their Backs: These swam by the Help of four short Horns or Arms, commonly in an ascending Manner; except when they had struck out their Arms on each Side their Head, they descended a little, till they recovered by another shooting out of them, and then ascended again; which Motion they seemed to continue without much Fatigue. In a larger Pond on the same Day, I perceived none of these white Lice-insects, but three other Sorts. One appeared, by my Microscope, to be as big as a Thetch, with a divided Tail in two flat Parts, which helped it to jet about in a Spoonful of Water with great Agility, and of a black Colour, but I saw no Legs or Arms that it had; and in the same Spoonful of Water a much smaller Insect presented itself, swimming about like a Pin's Head in Bigness. In another... Quantity... from this last Pond, I was very much surprised at the Sight of a slender Insect, whose natural Length, as it swam in a Phial of Water, seemed one Inch; had an Head and Tail like an Adder, with a Body of a white, shining, transparent

parent Colour, the Bigness of a small Straw, and composed of about ten Joints without any Legs, which helped it to twine about like a Worm or Adder, and would contract and extend itself like them. This Insect had a Pair of Eyes visible to the natural Eye of a Beholder without a Glass, appearing like two small black Specks; which were the more apparent, as his Head and Body looked of a whitish Colour: And I observed, that there was a little black Bunch on his Back near his Head, and another near his Tail. This Water-adder Insect (for so I call it) I took out of the Water, and laid it on a Piece of white Paper; where, in less than fifteen Minutes, it expired; putting out, as it had done before, its black Tongue, like a Hair; and another small Thing at its Tail, like the Sting of a Wasp. This Animal I kept alive in the Phial ten Days, by shifting the Water once in three or four, without giving it any Food. In the same Phial of Water another smaller Animal appeared, of a perfect brown Colour; in Length something above a Quarter of an Inch, with a Body about the Thickness of a small Straw, and a taper Tail, that had three little Hairs, or Forks, at its End, which it spread in Swimming, with a quick playing Motion; as it did its whole Body up and down in the Water by the Help of many Legs, and two Hairs or Arms at the Front of its Head. This Animal being thus furnished with Arms, Tails, and Feet, to a Body composed, like a Caterpillar, of many Joints, gives me a Suspicion it is of the amphibious Kind, because it is well provided for either Swimming or Crawling. On the 27th Day of *February* 1743. I shewed it to some Persons; who, when they beheld it in the Phial of Water with the naked Eye, declared themselves frightened and amazed at its Sight; as not suspecting

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suspecting there could be any such Animals bred and living in the same Water they daily used for their Tea, for boiling their Meat, for Brewing, and for watering their Cattle. Red-worms, Frog-spawn, Tadpoles, Water-lice, and many other living *Animalcula*, are obvious to the View of those who are at the Pains to strain their Pond and Ditch-waters through a Sieve; which most of the Inhabitants at *Gaddefden* are forced to do in Defence of our Health, in dry, hot Summers, and, indeed, all the Year besides, when our Ponds and Ditches are low in Water, as they were in 1743. But the former Sort of Animals being not so commonly found in the Water as these latter Sort are, they are overlooked by most People, and taken little or no Notice of. However, there are others, who are so much their own Friends, as to carry their Suspicion of the poisonous Nature of these Water-insects so far, as to use none of the Water for their Tea, or Flesh, before they strain it through a Cloth; as not trusting to the Detention of them by a Sieve, fearing its woven Hairs lie at too great a Distance to prevent the minutest of them making their Escape into the strained Water; which, notwithstanding all our Care and Pains to get clear and fine, must, in course, in some Degree, partake of the filthy Nature of the Mud and Sediments of the Pond, besides being tinged with the dead and living Insects, and with their Spawn or Eggs, so as to render the Water unwholesome, if it is not first boiled, and carefully scummed; and this the more, as the Water becomes less in Quantity; for then undoubtedly it is most disturbed by these Insects, that lie in and upon the muddy Part of it. But, in my next Supplement for *June*, I intend to give a further Account of this important Affair, because it is a Matter of very high Consequence.

as it concerns the Health of Men and Beasts ; and therein make known a Remedy for this great Evil, by the Application of a certain Ingredient that will infallibly kill all Sorts of Water-animals, and yet not damage the Water.

An Account of the Death of a Colt, supposed to be occasioned by constantly drinking at a Pond of foul Water, that abounded with infinite Numbers of Water-animals and Insects.—Now, although it cannot be certainly inferred from what I have before remarked, that the Polype, nor other Water-animals and Insects are of such a poisonous Nature, as to cause the Death of Beasts which are constantly watered at the Ponds and Ditches where they breed and harbour ; yet, in my humble Opinion, they afford us a strong Suspicion of it : And why common Instances of their Mischief are not more seen, may be for the following Reasons : First, where Pond or Ditch-waters are, by contiguous, declining, clean Situations, presently increased by Showers of Rain : Or, where such Waters are in large Quantities, and much exposed to the purifying Virtues of the Air : Or, where they are fed by Springs : Or, are often emptied : Then, I say, this Damage is much prevented. But, where foul or blackish-coloured Pond or Ditch-waters are reduced by long Draughts, and their Water-animals and Insects are thereby comprised in a very narrow Compass, they are consequently more exposed to be swallowed by Cattle (the larger Sort especially) that drink no other Water ; for then Multitudes of them, by means of their narrow Confinement, are necessarily convey'd or suck'd into the Bodies of Horses, Cows, and Swine, at their Watering or Drinking, for want of Room to avoid it, with some filthy Slime, that must accompany these Water-animals or Insects, and living *Animalcula* ; because they lie in or upon the

the Mud, as well as float and swim up and down in the Water. Which brings me to my intended Purpose of giving some Account of the Death of a Farmer's Colt — A Colt, that at two Years old cost Mr. —, who lives about a Mile distant from my House, ten Pounds at *Dunstable* Fair in *Bedfordshire*; and seemed to promise well for making an Horse worth twenty Pounds a Year or two hence: But this Hope was prevented by the Colt's sickening and dying on the Day after *Christmas* Day 1743. that happened in this Manner: It was taken ill about the tenth Day of *December*, for which it was blooded, and Drinks given it by two several Farriers; which occasioned him to look livelier at some times than at others; but he drooped all the while, and went off his Meat by degrees; so that he lingered about a Fortnight, or more, between Hope and Despair, and latterly seemed stupefied, as if under a lethargic Distemper; would now-and-then reel a little; and, at last, ended his Life in a sort of shriveling, or gathering-up Posture of his Body. When opened, the Man that did it told me, nothing could be discerned extraordinary of this Colt's Death; which employed the Thoughts of several, how it came to pass; but none were able to make a conclusive Conjecture. For my Part, as I am a near Neighbour and Acquaintance of this Farmer's, I gave my Opinion (though no Farrier), that it was occasioned by watering this Colt daily at a Pond situated at the Bottom of the Farm Yard, which lay on a sharp Descent, where Part of the Strength of the Dung and Piss of the Farmer's six Horses, his Cows, his Swine, his Sheep, and the Drain of his Dwelling and Out-houses besides, washed and run into it, that kept it all the Year under a greenish or black Colour, and in a very stagnating,

nating, and sometimes stinking Condition; and this more now than has been for many Years past; because the Springs were hardly ever known lower, by the last three Years dry Weather, than at this Time; which has caused even the Well-waters in many Places to be so low, that little could be got; and, therefore, some that used to water their Cattle from what they drew out of Wells, were now obliged to water them at corrupted Ponds and Ditches, so stored with Animals and Insects, that they seemed as thick as Oatmeal in Pottage. But this Farmer's Case was otherwise; he did it by Choice, though he had an excellent chalky Well-water at Command in a low Situation just by the same Yard, and accordingly constantly obliged the Colt to drink of this foul Water to the last, which at this time was computed to be two Feet deep, and the Mud under it as much; so that this Pond, in course, was become a poisonous Nursery for the Breed and Harbour of Water-animals, and *Animalcula* of the worst Sort, that were necessarily, as I said, in some degree, sucked in by the Cattle at their Drinking: And although these Water-animals and *Animalcula* may be killed by the digestive Faculty and Heat of the Creature's Stomach, yet, who knows what Quantity of venomous Matter may be thereby conveyed into the Blood of the Beast, or what Damage it may do afterwards? For, if I mistake not, most Poisons are of an acid Quality; and, if Water-insects are of the same Nature, they may possibly cause a Coagulation of the Blood of an Horse that drinks them into his Body; and That, a Stoppage of the Blood's Circulation; which may bring on a lethargic Quality, and kill the Creature: For, undoubtedly, if those Insects are of a venomous Nature (which it behoves one nicely to examine), they must necessarily be of great

great Prejudice to the Creatures that take them into their Bodies in common Draughts (notwithstanding it is manifest, that the Heat of the Stomach presently kills them); because they must more or less contaminate the Mass of Blood, by their poisonous Quality affecting and loading the Juices destined for Nourishment. But then we should take care to ground our Hypothesis upon a true Basis; else all our Argumentation thereupon must be Fallacy. Therefore I could heartily wish, that the learned Virtuofos of the Age, who are Masters of the best of Microscopes, and other Conveniencies, would strenuously employ their Curiosity in searching more into the Nature of these Water-animals and Insects; and endeavour to find out, whether they may communicate a poisonous Quality to the Blood of those Beasts, that may suck and drink them into their Bodies; for I am sure the Water is such, when it is in a stagnating, stinking Condition, as I am going to make further Observations of.

A further Account of the ill Effects of stagnating Ponds and Ditch-waters, and the Insects they abound with. — Presently after the Death of this Farmer's Colt, two of his other Horses were taken ill, that had been daily watered at this stagnating Pond-water; but it had not that fatal Effect on them as it had on the Colt; for these two, with suitable Applications, recovered; perhaps, because these two Horses being arrived to a greater Age than the Colt, their Bodies were more capable of resisting the poisonous Quality of the Water and its Insects. However, by these repeated Examples, the Farmer at last (as he owned to me) became of Opinion, that this Damage had its Rise intirely from the Horse's drinking at this nasty Pond; and therefore ever since has watered all his Horses with Water that is daily drawn

drawn out of his Well : A Remedy better late than never ; and which hardly any thing else but the Death and Sicknefs of his Horses could have persuaded him to make use of, and to overcome that old grand riveted Notion, that there can be no Harm in that Water, where Cattle have daily drank for many Years together without Prejudice. Therefore it is, that Custom carries it over Reason, and induces Thousands to believe their Cattle are always in Safety, in respect of their drinking at Ponds, let the Water be in what Condition it will, so there be enough of it : But as this Year 1744. is (if I mistake not) a fourth successive dry Year, the Case is altered ; because the Mildness of their Seasons occasioned not only great Scarcity of Water in most Places, but thereby stagnated it, and qualified it the more to breed pernicious Insects, that still multiplied, and enlarged their Growth ; till most Ponds and Ditches were stored with them to that Degree, as obliged the larger Sort of Beasts to swallow many of them at their Drinking. Hence it is, that it highly concerns all Persons who graze and keep Cattle, to be more than ordinary careful to provide themselves with a good Well, or large Ponds of Water, with such Aqueducts, as may quickly convey to them the wholesome refreshing Waters of Springs and Rains ; for small Ponds and Ditches, especially of standing Waters, are very liable to be full of Insects in Summer-time, and, indeed, all the Year besides in mild Seasons ; and then they are certainly unwholesome in the time they are mostly wanted. It is recorded, that the Drought of the Summer 1714. was so great, that most of the Ponds of standing Water were near dried up, and Cattle in such Places wanted Water ; or, where the Water was over-heated, the Cows, in particular about *London*, caught a Distemper (I suppose

suppose the Murrain) that was equal to the Plague, which caused many thousand Cattle to die that Year, by communicating the Distemper to one another : But it was observable, that where the Beasts had the Benefit of clear running Waters, they preserved their Health : On which Account, those Cattle that lived farthest from *London*, fared best ; because near that Metropolis there is little running Water, besides that of the *Thames*, tho' it is a Part where most is wanted, to wash away the Filth that is produced from the Dung, and Stale of their Cows in particular ; for here great Numbers of them are confined in so little Ground, that in hot dry Seasons they are forced, in some measure, to drink Part of their own Dung and Piss, out of the green and black Waters of their Ponds and Ditches, notwithstanding their being loaded with Insects ; which brought their Cows under that contagious Sicknefs as obliged their Owners to burn some, and bury others in Pits, to stop the Distemper ; and this Winter and Spring 1743. there were many meazled Hogs, and others jogged under their Throats : The first is a Disease in Swine, compared to the Small-pox in the human Body ; and so detested when known, that such Flesh is prohibited being brought to Market ; yet some have been so hardy to do it, and had it burnt. The second Disease is not so bad as the first ; for this seems to be the Favour of Nature in throwing off that Corruption which is bred from the Creature's Blood by a gathered Humour, and which, when ripe, we discharge by cutting, or running a red-hot Iron through the Bunch or Joggs ; and then the Hog gets sound, but is not fit to be killed till the Evacuation is over. However, the Cause of these Maladies are imputed by some

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to the stagnating Waters, and their Insects, that the Swine drink in abundance in many Places: And this with good Reason; for I and others had our Store or Yard Swine, that go about at their Will, jogged in *December, January, and February, &c.* when our fatting Hogs, kept in Sties, stood perfectly found; because the first drank nothing but the foul black Water of our Farm-yards, and contiguous Ditches, while the latter had clean Water given them from our choicest Ponds every Day.

The bad Situation of a Farmer's Pond in the Chelturne Country of Hertfordshire, and the ill Consequences that have attended it. — In this Example, as well as in Thousands of others, may be perceived the Ignorance of our Ancestors: What can be more indiscreet, than making a Pond in the Middle of a Farm-yard, where considerable Numbers of various Kinds of Beasts and tame Fowls are kept, great Part of the Year, to feed on Hay, Straw, and other Meat, and where they discharge their Dungs and Urines? Yet there wants no other Proof of such a silly Contrivance, than to see some of these Ponds, Ditches, and Drains, at this Day, in several Farm-yards; one of which Ponds I shall here take particular Notice of, as follows: *viz.* At *Icebrook Hay-Farm*, situated about two Miles distant from *Water-End*, there is a Pond in the very Middle of the Farm-yard, incircled with all the Dung that is made in the Stable, Hogsty, and elsewhere; by which the Wash of the Dung runs into this Pond, and thickens it to that degree that many have wondered how the Cattle could drink such grouty, black, stinking Water, full of Lice, Worms, Bugs, and other Insects: However this Pond remains here, at this Day, notwithstanding the Tenant had two of his Horses died in half

a Year's time, of the Yellows and Strangullion, without suspecting, that the original Cause was from the Foulness of this stagnated Water, and the Insects bred in the same; which, by Custom, the Beasts were so fond of, that they would refuse a clear River or Spring-water, when they passed through it, for this: And so others, that are used to drink at Springs or Rivers, would refuse them for any Sort of Pond-waters.

The bad Situation of a Farmer's Pond and Ditch in the Vale of Alesbury, and the ill Consequences attending the same.—Here the Farmer rented one hundred and fifty Pounds a Year, and kept eight Horses, and sixteen Cows, besides Swine, and tame Fowls, whose Dungs and Urines, for good Part of the Year, were made in and about this Yard, by the Horses in the Stable, by the Cows in the Cow-houses and Yard, and by his Swine abroad, and in the Sties; from all which were washed great Quantities of black Water, that remained in a Pond in the Yard; and when that was so full as to run over, the Water ran into a contiguous Pond, and large Ditch. Here it was that most Part of the Farmer's Horses had crack'd or greasy Heels, which the black Water undoubtedly very much contributed towards breeding, by its sulphureous and hot Quality, which, added to that of the Beans, where-with the Horses were constantly fed, so heated their Bodies, as to produce, in a great measure, this Malady; and, I am afraid, another besides; for Worms and Botts have been found, in large Quantities, in the Body of more than one of this Farmer's Horses, that have died and been opened. Here I have seen Swine that have been kept to fat in a Sty, forced to stand up to their Bellies in Water, to feed out of a Trough, and drink the nasty Sort that oused into the Sty from Dunghils;

yet I cannot say the Hogs suffered on this Account; because, I suppose, the Whey and Skim-milk they drank besides, became their Preservative. Nor has it cost me a little to alter some Receptacles and Aqueducts, which were, in former Days, made on Purpose in and about my Yard, that were so ill contrived, as to let the Virtue of the Dung and Urines of my Horses, Cows, &c. run off to a very great Loss; a Loss so common, that there is hardly one Farm-yard in our Parish of *Little Gaddesden*, but what lets the Dung-hil-water run into the Highway, and be, for the most part, lost, notwithstanding such black Water is the very Quintessence of the Dung; for when this is thoroughly washed, there remains but an insipid Virtue behind, that often helps to deceive the Ground it is laid on, and the Farmer its Owner: But if there is enough of such Dung-hil-water for the Cattle to drink, then some think it not lost, while it thus serves for Home-use. But the before-mentioned Farmer is, since the Death of his Colt, become wiser than he was, and has prevailed with his Landlord to be at the Charge of making him a new and large Pond, in a much more cleanlier and safer Situation, than that is at the Bottom of his Farm-yard, which lies always open for Cattle to drink at when they please. But my Invention answers a better End: for I have made a long Ditch that lies contiguous to my Kitchen-garden, capable to receive and hold the black Water that drains out of my Yard, which Cattle can't come at to drink, and yet serves me for several profitable Uses, that I intend to give an Account of more particularly hereafter.

N. B. The before-mentioned Farmer, that lost his Colt, has since had a large new Pond made, about fifty Poles distant from his Farm-yard,

yard, in a gravelly Bottom, free of all Communication of the Water that may run or drain from it.

How an Eel poisoned a Dog. ——— A curious Person, a Searcher into the Secrets of Nature, made the following Experiment upon an Eel and a Dog: He got an Eel, of a pretty large Size, and nailed it up to a Place alive, where he let it hang a considerable time, till it voided a Liquor somewhat like Rheum, which dropped on a Piece of Bread laid on purpose to catch it: And, when the Eel died, they took away the Bread, and gave it to an hungry Dog, which, greedily eating it, did, in a little time after, appear poisoned, swelled, and died. This Experiment having been thus tried, the Truth of it may be depended on, to the Surprise, undoubtedly, of many, that this Water-animal (which is esteemed, in many Places, a dainty nourishing Food, when baked in Pies, or roasted or broiled, &c.) should be capable of emitting a venomous Liquor: But so it is, that if the Eel had not a poisonous Quality in him, he could not discharge one. But, how far a lingering agonizing Death may turn a good Quality into a bad one, I leave to the prying Philosophers to account for; who may likewise inform their Judgments a little farther, from what Mr. Bradley has observed in his general Treatise of Husbandry and Gardening, where he has these Words: “ It is
“ likewise improper to have any Eels in a Carp-
“ pond, whether the Pond be for Breeding or
“ Feeding; for they are great Devourers, espe-
“ cially of the Spawn of Fish; unless indeed a
“ Pond be overpowered with Frogs and Toads,
“ and Fish do not breed in it; then the Eels will
“ help to destroy those Vermin. From some late
“ Observations, I am apt to believe, that the
“ Eel

“ Eel is viviparous ; that is, it brings its Young
 “ alive into the Water, contrary to other Pond-
 “ fish : For about the *Buoy* in the *Nore*, the Fisher-
 “ men take an Eel-like Fish about *Christmas*, that
 “ has then its Belly full of live Young-ones, almost
 “ as small as Hairs ; and about that time of the
 “ Year the River and Pond Eels are all bedded in
 “ the Mud ; or folded over one another, which I
 “ suppose may be their way of generating : And I
 “ wish about that time some of them were exa-
 “ mined ; for it is yet uncertain how they breed. If
 “ the Water-Toad, or Frog, should in that Pond
 “ chuse their Habitation, the Jack will be sure to
 “ fill his Belly ; but his Flesh is never the worse for
 “ that : The Fish that can only keep him Company
 “ without Danger, are Eels, Flounders, and Perch :
 “ The two first are as voracious as himself, and
 “ have a constant Guard over themselves ; for
 “ their Abode is always in the Mud, leaving only
 “ an Hole open at the Mouth ; at which they suck
 “ in their Prey, as it passes by.”

How a Water-Eff poisoned a Cat.—The fol-
 lowing Account was sent me by a Correspondent,
 whose Veracity I have reason to depend on, and
 therefore believe it to be genuine. His Words are
 these :—“ *London, February 20. 1743-4.* Sir,
 “ An ingenious Gentleman, whose Conversation
 “ I lately had the Pleasure of, was pleased to com-
 “ municate the following Account to me, which
 “ he had from the Gentleman himself ; and
 “ which I believe will be of some Use to you,
 “ since, as you informed me, you intended to
 “ write on the Nature of Water-insects, &c.
 “ ——— It is this : An eminent Physician
 “ at *Salisbury*, who was a great Virtuoso, tried
 “ the following Experiment, to discover whether
 “ or not there was any poisonous Quality in the
 “ Water-Eff ; viz. He put one into about a Quart
 “ of

“ of clear Water from the Pump in a Bason, and
 “ supply’d him now-and-then with a sort of weedy,
 “ slimy Matter, or Scum, that accumulates, or
 “ gathers, in a large Quantity, like a Cloud,
 “ at the Bottoms of Ponds; on which (as well as
 “ Fish) he had observed them to feed. This he
 “ lived on for near a Fortnight (but did not re-
 “ new the Water all this time), till he then ob-
 “ serv’d the Creature (supposed for want of Wa-
 “ ter, and Room enough to play himself in) to
 “ throw out of his Mouth two or three Kitchen
 “ Spoonfuls of frothy, slimy Matter, somewhat
 “ resembling the Frog’s Spawn; and then expir’d.
 “ The Physician thereupon was curious enough
 “ to taste this upon his Tongue’s End, and found
 “ it of a very pungent saline Quality, and made
 “ all the Water brackish. Then he put some of
 “ the Water for a Cat to lap, which soon after it
 “ had done, it began to swell very much, and
 “ was almost at the Point of Death; but at length
 “ it recovered.”

Observations on the Death of the Eel and Water-Eff.—The Water-Eff, as well as the Frog, &c. are esteemed by most People harmless Creatures; nay, they are of Opinion, they do the Pond-water they live in a Service, by feeding partly on the Scum and Slime thereof, which helps to preserve such Water in a purified State; the Truth of which I am apt to believe, as the better Part of these amphibious Animals; but the worser Part of them I never knew till of late: One Instance of which is here undeniably proved in the first of these; whereby is plainly shewn the bad Effect of a tedious panic Death of the Water-Eff; and which, however harmless in any other Condition (for the Boys frequently catch them for Pastime, and never suffer any Damage by handling them),
 yet,

yet, by this way of the Eff's dying, it certainly evacuated a poisonous, or venom'd Liquor, that it expired in, as fully appeared by the sick swell'd Body of the Cat. From whence I would make this Observation, that where Eels, or Effs; live in considerable Numbers in a small Quantity of Water; such Water (it is my humble Opinion) ought to be mistrusted, and the Use of it avoided, both for House Occasions, and for watering Cattle at, lest these Animals, by some Accident they are liable to suffer in the Water, die a lingering panic Death, and thereby communicate a poisonous Quality to such Water, which may perhaps infect the Bodies of Men and Beasts, and bring them under Sickness, if not Death. But for a further Account of the Nature of bad Waters, and pernicious Water-animals, I intend, in my next Monthly Supplement for June, to give another surprising Detail, by inserting in it the Copy of a Letter sent me from an ingenious Correspondent, who made very curious Observations on the latter, and by my publishing several serviceable accidental Cases of the former: I shall conclude this Chapter with the Copy of the following Letter; viz.

“ *The poisonous Nature of the Land-Eff; of the Row of a Barbel, and of Coperas Oysters.* —
 “ Sir, As I am very much obliged to you for
 “ many Favours, I take all Opportunities to acknowledge the same; and therefore hope the
 “ following Account will not be unacceptable,
 “ since it may furnish you with some Items you
 “ never heard of before: And if it should contribute in any useful Degree to your great Undertaking, of furnishing the World with serviceable Novelties, I shall have my desired Satisfaction. — A Friend of mine says, that the
 “ Powder of a dried Land-Eff, or Swift, as they
 “ are

"are called in *Essex*, is a most deadly Poison :
 "And that the Row of a Barbel (a fresh-water
 "Fish, such as we eat at *Reading*) is of a poisonous
 "Quality, insomuch as to cause the Nails to
 "drop off. — There is a Sort of Oysters of
 "late only brought to Town, called *Porto Bella*,
 "which have a Coperas-like Taste, and are of
 "a poisonous Nature (a young Woman's Lip
 "having swell'd soon after eating them, told me
 "by the Person who sold them her); insomuch
 "that the Lord Mayor lately ordered a large
 "Boatful to depart the Gate, or all to be thrown
 "overboard."

CHAP. XIII.

Of Fishing for Trout, &c.

O*F the Nature of Trout.* — The Trout deserves
 a more particular Account to be given of it,
 than of any other fresh-water River-fish whatso-
 ever, because it is the most profitable Sort we
 have in our inland Counties. It is said to come
 in and go out of Season with the Stag and Buck,
 and spawns about *October* and *November*; which
 is the more admirable, for that most other Fish
 spawn in warm Weather, when the Sun by its
 Heat has cherished the Earth and Water, making
 them fit for Generation. The Spawn of the
 Trout has been observed to produce about fifty;
 of which there are several Sorts, as the Fordage
 Trout, the Armerly Trout, and the Bull Trout.
 That called the Char-fish, which is bred only
 in *Westmorland* and *Cumberland*, is thought to be
 a Sort of Trout; and so excellent, when potted,

as to be sold from one to three Guineas a Pot. But one of these came to me much cheaper, as a Present from a worthy Gentleman, whose Correspondence I was favoured with. Some say the red and yellow Trouts are best, and that the Female has the Preference for its Goodness, having a less Head, and deeper Body, than the Male: By their large Back you may know, that they are in Season, with the like Note for all other Fish. They are all the Winter sick, lean and unwholesome, and often found to be lousy: These Troutlice are a small Worm with a big Head, sticking close to the Fish's Sides, and sucking Moisture from him that gave them Being; neither is he freed from them till the Spring, or Beginning of Summer; at which time his Strength increases: Then he deserts the deep still Waters, and betakes himself to gravelly Grounds, against which he ceases not rubbing himself till he is cleansed from that Loupsiness: From that Instant he delights to be in sharp Streams, and such as are swift, running toward the South, where he will lie in wait for Minnows and May Flies; at the latter End of which Month he is in his Prime, being fattest and best. They are usually caught with Worm, Minnow, and Fly, either natural or artificial. There are several Sorts of Worms, which are Baits proper for the Angler; as the Earth-worm, Dunghil-worm, the Maggot, or Gentle: But for Trout, the Lob-worm and Brandling are accounted the best, or Squirrel-tail, having a red Head streaked down the Back, and a broad Tail. The Brandling is commonly found in an old Dunghil, Cow-dung, Hogs-dung, or Tanner's-bark. But here take notice, that with whatever Sort of Worms you fish, they are better for keeping; which may be in an earthen Pot with Moss, which must be

changed once in three or four Days in the Summer, and in twice as long time in the Winter.

As this Month of *May* is the prime Month of the whole Year for Angling, &c. especially for that best of River fish, Trout, I shall give some Account of the same.

To take Fish by Angling.—Get some brown Flies, put them into a little Mould, and put both into a Quart white Bottle, that has a very wide Mouth; put some Grass on the Top, and secure it so well with a Cork, that no Water get in: To this fasten a Piece of Packthread, and sink it: Then bait your Hook with an Ant-fly; let it down as near as you can over the Bottle, and you'll have good Sport, as we frequently find true in our *Hertfordshire* gravelly Rivers.

A second Way.—Daub the Inside of a little Box with some Vermilion finely ground, and put into it two or three or more Gentles, or Maggots bred in the Carcase of a dead Cat (which are always the liveliest Sort); and by their rolling about in the Box for two Minutes before you make use of them, they will be of a beautiful red Colour: Fasten one of these to your Hook, only through the Skin of the Back (which will not kill it, as the common way through the Head or Body does), and you need not fear good Success, if you mind to be quick enough to draw as soon as you perceive they bite; otherwise you are likely to lose your Bait and Time.

A third Way.—Take Oil of Ivy-berries, or the Sap obtain'd in this Month of *May*, by piercing the Body of the Ivy; putting in a Quill, and a Phial fasten'd to it, will, by now-and-then smearing the Box you keep your Baits in, with a Drop or two of it, make the Fish bite a great deal sooner.

The Breed and Nature of the Caddis Fly.—All Flies are bred from a Caddis, that is to say, from a Worm. The Caddis, or Trout Fly, is hatch'd in the Water, after lying in its Nest all or Part of the Winter. In May it arrives to that Maturity, as to become bulky enough for the Water to cause its Ascension from the Bottom of the River: And when it is got to the Surface of the Water, I have observed with a great deal of Pleasure how this large Fly betakes itself to its Wings, and leaves its Shell or Nest behind it floating on the River. This Fly has three short Hairs or Arms at its Head, and three longer ones at its Tail; are all the Month of May rising at times out of the Water; very fat, with a blackish Body, and a whitish Tail; in which Condition they are catch'd for baiting Angling-hooks, and are certainly the best natural Baits of all others for taking Trouts. They never feed after their first Flight, but grow leaner, and leaner; insomuch that in a few Days time they'll crack or pop on squeezing, and generally return and die on the Water they came from. This wonderful Fly serves for Part of the Trout's Subsistence in this Month, which are so voracious after this their dainty Prey, that commonly they greedily bite at it on the Hook. At Winchester I saw a Man angling with the Caddis Fly, just by one of the Bridge Arches, where the Water had a great Fall, and was very rough: Yet he seem'd to catch more Fish here than any other I saw fishing in the smoother Part of this River, because a Trout swims, for the most part, against the Stream.

Of catching Trout by the Flyde.—In my former Work I have given some Account of the Flyde for catching Trout, as being a very great Conveniency for this Purpose; because by this Invention a Person may command a Dish of Fish without

without waiting their being taken by the Angle, or by throwing a Net into a River. This Hyde is made with Joists and Boards, Part whereof compose two large Flap-doors, that are made to open when the Fish is to be taken out after being caught, by letting two or more Boards fall down in a Notch or Frame on each Side of the Doors, that generally are so large as to extend cross a narrow River, which incloses all the Trout that are hid in the Hyde; for here these Fish lie to shelter themselves in great Security against the Sun, Air, and Poachers, as may be seen in some of the *Hertsfordshire* and other Rivers.

How to take Trout, Eels, and other Fish, in the Night-time. ——— To do this, make a little Boat, or get a wooden Bowl, about the Bigness of the largest Punch-bowl, in Readiness: When this is done, provide yourself also with a Glass Flask broken at Bottom, which you are to fix in Clay over a lighted Candle; then tye a Leather Pipe about the Neck of the Flask, that should not exceed four Feet in Length: This fasten on one Side of the Boat or Bowl, and on the other Side fasten baited Hooks: By this the Fish will gather about the Flask, and bite at the Baits. But this Sort of Fishing must be confin'd to a Water that is not above three, or three and an half Foot deep at most, that the Leather Pipe may have Liberty to stand almost erect, with a sufficient Part of it above Water: And if the River has a sandy or gravelly Bottom, you may stand at the Side of a narrow River, and have a Chance to see Eels play, and get an Opportunity of striking some with Eel-spears.

N. B. The Clay that is to be made use of on this Account should be mixed with Salt, for keeping Water the better out of the Flask.

A second Way.—Get a white glass Phial, and put therein divers coloured Silks, stop it close, and let it lie on a gravelly or sandy Bottom; for these Colours will amuse the Fish, and cause them to gather and stay about the Phial in great Numbers, ready to bite at your Baits, or to be caught by Nets.

A third Way—is said may be done thus: Take Spirit of Mars or Iron, and Spirit of Castor or Asper, half an Ounce of each: Of this Mixture take a Tea-spoonful, and put among it an Handful of great Bran; work and roll it, and throw little Bits of it into a Pond or River: It will shine like Diamonds in the Water, and cause the Fish to come to, and eat them; and tho' it won't poison them, it will make them drunk, so that they may be easily taken.

A fourth Way.—If you would do this with Ground-bait; in the first place, you must have a neat taper Rod, light before, with a tender Hazle-top: You may angle with a single Hair of five Lengths, the one tied to the other, for the Bottom of the Line, and a Line of three-hair'd Links for the upper Part; and so, if he has room enough, you may take the largest Trout in the River. He who angles with a Line made with three-hair'd Links at the Bottom, and more at the Top, may take Trouts; but he who angles with a single Hair, shall take five to his one; for this Fish is very quick-sighted: Therefore the Angler must keep out of Sight, whether it be by Day or Night; and he must angle with the Point of his Rod down the Stream. He must begin to angle in *March* with Ground-baits all Day long; but if it prove clear and bright, he must take the Morning and Evening, or else his Labour will be in vain. He that angles with Ground-bait, must fit his Tackle, and begin

begin at the Upper-end of the Stream, carrying his Line with an upright Hand, feeling his Plumbet running on the Ground about ten Inches from the Hook, plumbing his Line according to the Swift-ness of the Stream that he angles in ; for one Plumbet will not serve all Streams. For his Bait, let him take the red knotted Worm, which is very good, where Brandlings are not to be had. The Minnow (or, as some call it, the Penk) is a singular Bait for a Trout ; for he will come as boldly at it, as a Mastiff Dog at a Bear. It will be advantageous to him to use a Line of three Silks, and three Hairs twisted for the uppermost Part of the Line, and two Silks and two Hairs twisted for the Bottom, next the Hook, with a Swivel near the Middle of his Line, with an indifferent large Hook. If you fish for a Trout, by Hand, on the Ground, take a Lob or Garden-worm, and put your Hook into it, a little above the Middle, and out again a little below the same ; then draw your Worm a little above the Arming of your Hook, making your first Entrance at the Tail, that the Point of the Hook may come out at the Head. When you fish with the Minnow, chuse the whitest and middle-sized, those being the best ; and so place him on your Hook, that he may turn round, when he is drawn against the Stream. The best Way of baiting with the Minnow is thus : Put your Hook in at his Mouth, and out at his Gills, drawing it through about three Inches ; then put the Hook again into his Mouth, and let the Point and Beard come out at his Tail ; then tie the Hook and his Tail about with a fine white Thread, and let the Body of the Minnow be almost strait on the Hook : This done, try against the Stream, whether it will turn, which it cannot do too fast : For want of a Minnow, a small Loach, or Stickle-back,

back, will serve. The Angler must angle with the Point of his Rod, down the Stream, drawing the Minnow up the Stream by little and little, near the Top of the Water: The Trout, seeing the Bait, will come most fiercely at it; but the Angler must not then presently strike. This is a true Way, without Lead; for many times they will forsake the Lead, and come to the Minnow.

How a Gentleman, reduced by Sickness to a very weak and declining, Condition recovered, and got Food by the Use of Tench Broth.—— In order for my Reader's entertaining the better Notion of this excellent Fish, I shall, in the first place, give a particular Account of it, as described by an ingenious Pen:——“Tench,” says he, “is a delicate fresh-water Fish, that has but small Scales; yet very large and smooth Fins; he has a red Circle about his Eyes, and a little Barb hanging at each Corner of the Mouth. This Fish delights more among Weeds in Ponds, than in clear Rivers, and covets to feed in very foul Water; yet his Flesh is nourishing and pleasant. His Slime is said to be of a very healing Quality to wounded Fish, and, upon that account has obtained the Title of the Fishes Physician. Nay, the devouring Pike is said to be so sensible of his Virtue, that he will not hurt a Tench though he will seize upon any Fish, of his Size that comes in his Way: And when the Pike is sick, or hurt, he applies to the Tench, and finds Cure, or Relief, by rubbing himself against his Body.” At *Gaddesden* I have these Fish in my Ditch and Pond; for they will live even in Horse-ponds, where other Fish will not, because of the Foulness of the black Water; and yet they seem to have no ill Effect on the Flesh of this delicate Fish, which is both pleasant and nourishing beyond

beyond all other fresh-water Fish; and which will the better appear from the following Account: A Gentleman, being reduced, by Sickness, to a very low Condition, was advised, by his Doctor, to go down to his Seat near *Huntingdon*, and sup Tench Broth; which he accordingly did; and, finding the great Benefit of it, continued taking it so long, that he always returned to *London* fat.

The Receipt how to make Tench Broth.—Take a Tench that weighs one Pound; cut him in three Pieces, and put them into a Jug, well corked, to as much Water as, when all is stewed, there will be a Pint, or a little more: Let the Jug boil five Hours in a Pot, or Kettle, of Water. In the mean time, let a Quarter of a Pound of Sago be boiled in Water, in a Pot by itself. When the Tench Broth is boiled enough, mix the Liquor of one with the other, and drink it as Soup or Broth. This Receipt was given me by the late Reverend Mr. *Colemore*, Vicar of *Edlesborough* in *Bucks*, who assured me of the Gentleman's Case aforesaid.

The Copy of a Letter received from an unknown Hand.

London, May 31. 1744.

Mr. Ellis,

I Have been a constant Buyer of all your Works, as they have appeared; and was surpris'd, that there was no Account, in your last Monthly Book, of the Bustard, as you promised, and was advertised: Should be glad you would let us know how that Bird, and the Pheasant, may be brought up, with little Trouble and Charge, in great Towns, in a Room, &c. as you hinted: Hope to have a full Account of Park and Deer; several curious Receipts farther in Country Affairs, and in relation to a Country Housewife's Matters: How to de-

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stroy, or take, all manner of Vermin infesting the Countryman ; something in respect of finding, increasing, and preserving Game ; the Laying-out a Country-Seat ; what ought to appertain to it, to render it commodious and delightful, either for a Nobleman, or for a private Gentleman ; and divers other Things in the Rural Taste, which, it is apprehended by many of your Friends, you can write on ; and will be exceedingly taking.

I am, S I R,

Your Friend, and Humble Servant.

I don't live far from you ; so don't know but I may do myself the Pleasure of seeing you this Summer. Don't care how expeditious you are in publishing your Works.

In Answer to this, I can only say, as my Undertaking is great, it requires some Time to perform it in ; and that, for my Interest-sake, I will do it as fast as I can.

C H A P. XIV.

Of Trees.

THE great Benefits of preserving the Shoots of Trees and Hedges from the Bite of Cattle, shewn by the Damage resulting from such Bite. — Mr. Worlidge says ; “ Forbear cutting or cropping “ Trees you intend shall thrive, till *October*.” And he is very much in the right, of cautioning against the same ; because now the Sap seems to be

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be in almost its full Action, by supplying every Arm, Bough, and Twig, with its thin Liquor, at this Time so rarefied by the Warmness of the Weather, that it is delivered from that densified thick Consistence, and inactive State, it was in by the Coldness of Winter-weather ; which causes it to circulate in this Month, in Trees, Shrubs, and Herbs, and forward their Growth in new and vigorous Shoots ; upon which depends the Inlargement of Trees, Shrubs, and Plants, that are now in their infant Growth, and tenderest State: Wherefore our greatest Care is more required in this Month, than any other, to prevent all manner of Cattle biting or cropping any first young Shoots of Trees or Hedges ; because their Bite, at this Time of Year, is perfectly venomous : Which I prove thus : If the Shoot, or young Branch, of a Tree or Shrub, is bit by Horse, Cow, or Sheep, in this Month, the Sap, more or less, will surely issue out of the Part, as out of a Wound ; and, by the Shoot's losing all or Part of its Blood or Sap (which is the Life of it), it either dies, or becomes so weak, as to keep only in a languishing Condition all the same Year, and longer. But if it is a single Shoot, without any collateral ones, it is in the greater Danger of being intirely killed by such Bite or Crop ; for then the Sap of the whole Plant being mostly contained in such a single Shoot, it is here discharged at the Place so bitten, in Part, or in the Whole ; but if there is any other Shoot from the same Root, or Side-branch from the same Shoot, that has escaped a Bite, the Damage will not be so great ; because, though the bitten Shoot dies at the Wound, and about it ; yet the Sap, contained in the Side-shoot, remains not so much hurt, but may proceed in its Growth the same Summer, but not with the same Vigour, as if none of the Branches had been bit

or crop; for a Bite, even of one Branch, affects in some degree, all the rest, be they ever so many from one and the same Root; because the Loss of some Sap is Part of the Whole. This, I think, is enough to shew my Reader, how careful he ought to be in the Preservation of his Trees and Hedges against the Bite of Horse, Cow, and Sheep, especially where these grow in inclosed Fields, because here they are of double Advantage to a Farmer to those Hedges that are planted and grow in open Fields, for here they are planted more for the sake of the Wood, and Boundary-marks, than for Fences. But, for farther explaining this important Matter, I shall proceed as follows; *viz.*

How a Farmer damaged a very profitable Hedge for many Years afterwards, by carelessly suffering his Cattle to crop it in this Month.——The Hedge I am here about mentioning, was first well planted with Variety of Sets, as Oak, Beech, Ash, Hazel, Sallow, and Thorn, on a good loamy Soil, and in the Home-Close, where it grew in a very vigorous flourishing Condition, even to that degree as to give the Farmer an Opportunity, at every nine Years End, to cut and plash it; and then it yielded him so much Fagot-wood, as made the Ground it grew on pay as much as any other of the like Quantity, under Corn or Grass, besides proving a safe inclosed Fence against the Breaking-out of any Horse, Cow, or Sheep, and nourishing those several Timber and Fruit-trees that grew, at proper Distances, in the same Hedge. But so it was, that this Hedge, as I said, standing in the Home-Close, the indolent careless Farmer suffered his Cattle, Night and Day, to have free Access to it, and bite and crop it at their Pleasure; and this at an Age, before its Top-shoots had grown high enough to be out of the Reach of their Mouths; which so venomous and stunted its Growth,

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Growth, that its wounded Parts caused the whole Plants to sicken and decline, instead of making a forward growing Progress; insomuch that this very Hedge, by some Repetitions of the same Damage, never recovered its former usual profitable Growth, for near twenty Years after; whereby the Tenant became not only his own Enemy, but likewise so to his Landlord; for by such his ill Husbandry, he lessened the Value of the Farm, either for Letting or Selling; because, when a Tenant, or Buyer, takes a View of a Farm for this Purpose, and sees its Hedges in such a dismal Condition, he is presently apt to believe the Land is worse than it really is; for, according to the Growth of the Wood, so he estimates the Goodness of the Ground; and thereby he is induced to offer a Price proportionable for the same. And though this Plea may be justly alleged, that the Hedges afforded so poor a Prospect, by reason the Tenant suffered his Cattle to crop and eat them in their infant sappy Growth; yet I have heard such a Plea made use of in vain to a Purchaser, unacquainted with Country Affairs, who could not be brought to believe such sorry Hedges were occasioned by any other Thing than the Poverty and Barrenness of the Soil.

C H A P. XV.

An Account of a new Attempt to feed Sheep among Pea-Crops.

I CALL this a new Way, because such an Attempt was never known in these Parts, till very lately; and then it was first done about *Kensworth*, *Flamstead*, and *Market-street*, which are three Places lying in and near the great *Dunstable* Road,
for

for feeding Ewes, with their Lambs, in Pea-fields, that were sown with Hog-peas, to stand for a ripe Crop. But another Incentive to this new Piece of Husbandry was, the Destruction of the wild Oats, which, in these Parts, grow in great Quantities, in their light, chalky, gravelly, and loamy Grounds; believing that these Animals, with their narrow Mouths, would bite and feed on them, before they would meddle with the Peas: Accordingly, the Sequel proved their Notion right; for the Ewes and Lambs being turned into a Field where the wild Oat was its proper Height, and in its sweetest sappy Condition, they fell upon eating them, in Refusal of the green Pea-stalks, and their Heads. In this Case, the Growth of the Peas, as well as that of the Weeds, is to be particularly regarded; for if the Ewes, and their Lambs, are turned into such a Field, while the Peas are very young, they would be apt to eat them, as well as the Weeds: Therefore they observe, not to turn these Creatures into a Field of Peas, till they are grown pretty high, as they commonly are about the latter End of this Month; and then they will feed amongst them till they are almost ready to bloom, and yet do the Pea little or no Damage, provided the Ewes, and their Lambs, are shifted and removed in due time; that is, when they have pretty well eat up the Weeds, they ought to be taken out of the same Field, and put into another, lest their Hunger oblige them to feed on the Pea-stalks, and do considerable Damage. But here is room, on this Account, for an Objection to this Practice; That the Ewes, with their Lambs, if they don't bite off the Pea-heads, they may, by their Tread, bruise the Pea-stalks, and hurt the Crop. This, I own, may happen in some degree; but, considering the Good the Sheep do in eating down the wild Oat, and other Weeds, and the Dung and

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State that they leave behind them, a much greater Advantage may be obtained this way, than by not feeding Sheep among Peas. But, for a farther Proof of this, I have to say, that, in this Month, some take in Road-sheep, to feed them thus among their Field-peas, at so much a Night a Score, as they travel in their Way to *Smithfield* Market in *London*, and find their Account in it; for Experience shews, that Sheep prefer the wild Oat, and other Weeds, to Pea-stalks; and, by this new Way, the Farmers, that follow this Practice, get more Money by their Peas than formerly, when they did not take this Method. However, I have this to add, that though several Farmers turn Sheep in, every Year, to feed in their Pea-fields; yet I must own it to be a bold Way of proceeding; even so bold, that some of their Neighbours, to my Knowledge, are afraid to do the like. Any Person, therefore, that doubts the Veracity of what I here write, may inform themselves of the same, at the aforesaid Places, where they may have full Satisfaction of the same.

C H A P. XVI.

Of Bustard Wild Fowl.

THIS most excellent, beautiful, large Fowl, justly deserves to be bred tame, tho' it cost, at first, a little extraordinary Expence, to get a Couple of them in their infant or chicken Growth, or for getting their Eggs; because their Bodies will pay their Owner more Profit than any other Fowl they can keep about their House. I know a Gentleman, that keeps some of these, declares, he would not take ten Pounds for one of them. I know another, that had several of them caught,

by Greyhounds, while so very young, that they could not make their Escape from the Dogs. But more of this in the following Accounts.

The Copy of a Letter from a Person, concerning the Taking and Improving that noble large *English* Wild Fowl the Bustard.

S I R,

I Received yours; and the Reason I did not answer it sooner, is, because I could not reconcile myself to the Inquiries; but since, from more substantial Assertions, I learn, that the safest Way of bringing up Bustards is, to catch them as early as possible after Hatching, which generally is in large Pieces of Rye, adjacent to Pieces of Barley: They feed and conceal themselves in Rye in the Day-time, and in Barley in the Night, or early in the Morning. They lay in Rye, and cover their Eggs as a Turkey does, and are much of the same Nature and Disposition, being very sullen and sulky. Those that are caught the soonest after hatched, are the easiest reconciled to a Familiarity with those that feed them; which is first done, by cramming them with Crumbs of Wheat-bread and Milk, and sometimes small Pieces of fresh Meat; which must be done, until they are capable of feeding themselves; which, with frequently being so fed, will become familiar, and feed out of your Hand: And, when so accomplished, they may be put into a Garden, where they will feed of Lettuces, and almost all Sorts of Grain. They are very scarcely hatched here, there having been but two caught in the Space of four Years; one of which was taken in a Piece of Barley, near to a large Parcel of Rye, the last Spring. I can learn by no Instance, of their being hatched otherwise than by their own Species; but, I imagine, if their Eggs

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can be found, before set upon, may certainly be brought forth by a Hen, as sometimes Turkeys are. Shepherds are the properest to procure you Eggs, or Young-ones; and if I can procure either for you, will endeavour to bring them to some Perfection. Your professed Friendship to my Son engages me to return you my hearty Thanks, and to inform you, that you may command any Service within the Power of,

S I R,

Burwell, Nov. 20.

1743.

Your obliged, humble Servant.

Remarks on the foregoing Letter, concerning the Breed of Bustards. — According to my Promise in my former Works, I here give a further Account of the Nature of this bulky delicate wild Fowl, which justly claims the Regard of our Nobility and Gentry in particular for its Propagation, and Breed in the tame Way. First, Because this Bird yields a most charming pleasant white Flesh, and therefore fit for the Table of the greatest Lord and Lady. Secondly, For its large weighty Body, which, as I have heretofore observed, has weighed between twenty and thirty Pounds, Guts and Feathers included, that renders it a very profitable Family Fowl. Thirdly, For its beautiful Sight, which is not a little engaging to a curious Spectator. Next to the Cock Pheasant and the Heathcock, I am of Opinion the Cock Bustard, as a wild Fowl, shews itself in the finest Colours. Fourthly, For that the Nobility and Gentry are best able to defray the Charge of obtaining their Eggs or Young-ones, and afterwards to maintain them in a proper Place suitable to their Natures; for, without this Conveniency, it is to little Purpose to attempt their tame Breeding. In Parks, Grass-walks,
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Vistoes, &c. the Bustard may be made a most noble Inhabitant; for here he will not only grace the Place with his Presence, but get good Part of his Living by picking up Snails, Caterpillars, and other Insects; and feed on Lettuce, Rapes, Turneps, Beech and Oak-mast, parboil'd Flesh, and other Viands: And where they are kept among Beech-trees, in a plentiful Year of their Mast, this Bird, between *Michaelmas* and *Christmas*, will almost fat on this Food alone, as well as great Numbers of both wild and tame Turkeys do. Hence it is, that I cannot but observe the Neglect of great Numbers of our Gentry, who are Owners of Parks, or fine inclosed Fields, whose Soils are agreeable to the Growth of the excellent Beech-tree, and yet take no manner of Care to propagate it. If it is not for the sake of its Timber, yet for its ornamental Shade and Sight, for its Shelter to Deer, Pheasants, wild Turkeys, Bustards, &c. it ought to be most strenuously endeavoured after, as some few of the more Judicious have done this last Winter and Spring 1743. by sending their Orders by Letters to me for some thousand of Beechen-fets, which I readily furnished, and sent them by Carriers to their appointed Places, in the freshest manner I could well do: But of this more hereafter; and now return to my present Subject: Which leads me to observe, that the breeding of Bustards tame, may be as well done as breeding Pheasants, *Guiney* Hens, wild Turkeys, Swans, Partridges, Heath-cocks and Hens, Canary Birds, Lions, and other wild Creatures, tame, as is now done contrary to the Expectation of our Forefathers, who were ignorant of these great Improvements of Nature. But so it is, that both animate and inanimate Creatures have of late Years been brought over from distant Climates, and by Art (the Handmaid

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of Nature) made to multiply their Species in *Britain*, where, till within these thirty or forty Years, past, they were perfect Strangers to our Northern Region; which plainly shews, that many other curious and profitable Things may, by Art and Diligence, be likewise brought to Perfection with us, which was never yet done. In which Number I here propose the Bustard wild Fowl to be bred tame, and its Species multiplied in as prolific a manner as any of the wild Turkeys are, which at this time are kept, and in their Breed annually increased, by many of our Nobility and Gentry. It is true, that the Bustard, as well as the Pheasant, &c. is naturally a wild Fowl: But don't we see wild Turkeys, Pheasants, *Guiney* Hens, &c. bred tame; and if afterwards let to fly at their Pleasure, will not forsake the Park or Place they are in, but remain in them, and the neighbouring Woods and Fields, ready for the Owner taking them at any time, if not disturbed by Poachers? By the same Rule, if the Eggs of Bustards are hatched under a tame Turkey or Dunghil Hen, I don't in the least doubt from what I have seen, but that they may be brought up in the same domestic Manner, to be so much in Love with their native Habitation, as to prefer it to all others for their constant future Residence. But to come to more Certainty, and avoid all Risque of the Bustard's flying away, and turning a wild Fowl again after being bred tame; it is only pinioning or cutting one Wing, and then the Danger of thus losing is over: Or otherwise; if a Person has a mind to enjoy this dainty huge Bird in its original State of Feathers without pinioning or cutting, it may be done as I have heretofore given an Account of; *viz.* by fixing Network about eight Feet high from the Ground, supported by Posts, and secured on all Sides by paling of Boards, that

no young nor old Bustard can possibly make its Escape, and yet have the Benefit of the open naked Air. Thus several Acres of Land may be employed in divers Partitions; allowing a Rood more or less to each square Partition, which may give an Owner the Opportunity of keeping in one Part white Peacocks, in a second wild Turkeys, in a third Bustards, in a fourth Pheasants, in a fifth *Guiney* Hens, in a sixth Partridges, in a seventh Water-fowls, and so others: And in the same Partitions of Ground, Turneps, Rapes, Green Wheat, and other Vegetables, may be sown, and made to become Part of their healthful Subsistence both in Summer and Winter; by which, with dry Corn, Pollard, Rasplings of Bread, and other Food, they may be nourished and fattened with great Expedition into the sweetest Flesh. By such Management in the open Air, where they have their Range at Pleasure, or confined in these Network Partitions, an Owner may at any time command one or more of these Bustards, where, by Custom, they may be brought to answer the Whistle, and come at an usual customary Time to their feeding, twice or thrice a Day, as it is now done in a certain Park, where Pheasants and Partridges come at the Whistle-call, as naturally as Dunghil Hens and their Chickens do at the Mouth-call of a Farmer's Maid-Servant; which if any Gentleman doubts the Truth of, and has a mind to be satisfied of the same as an Eye-witness, let him come to my House; and for paying me only for one Day's Riding with him, I will wait on him to the Place where these several Network Partitions are actually in Use for confining, breeding and keeping several of the Sorts of Fowls before-mentioned. What a delightful Conveniency then may a Gentleman thus enjoy, who by this means can command a noble Dish of wild Fowl of di-

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wers Sorts on any emergent Occasion, and in the quickest, freshest, and sweetest Manner possible, at any Season of the Year, at the cheapest Rate! Surely, did our *British* Gentry know the great Felicity that is to be enjoyed in an hundred Branches of a Country Life, they would no longer neglect the Means of obtaining it; but endeavour, with all their Might, to be Masters of them with all Expedition; that their Country Seats may become so completely furnished with such Beasts, Fishes, Fowls, Fruits, &c. as may render them capable to entertain and regale the greatest Potentate, at a small Charge, in the most elegant Manner, free of that excessive, ruinous Expence, of buying these Creatures at a second and worst Hand: These charming Improvements would certainly make Gentlemen more in Love with their rural Habitations, and less with a Town-Residence. But I must stop my Pen here, for employing it in a more particular and extensive Manner hereafter, when I have more Room to discuss this weighty Matter: And here farther observe, that if a Bustard is one of, if not the largest wild Fowl we have in *England*, in its natural State; it may be still improved in Bigness and Goodness of Flesh, by caponizing the Cock in its first Year of Growth. Now, to get the Bustard bred tame, you may see, by the Copy of my Correspondent's Letter, that the Bustard lays its Eggs in Rye, which, in the Month of *April*, is high enough to cover and conceal them from the Sight of Persons that may accidentally walk near them; for this Grain, generally growing in sandy, gravelly, or other dry Soils, forwards the Growth of the Rye, and preserves the Bustards Eggs from Chills of Water, notwithstanding these great Fowls make no Provision, by way of a Nest, to hatch their Eggs in; but lay them in a little hollow Place, made so by the Tread of Horses, or otherwise, like
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the Curlew, Lapwing, and some others, that run with some of their Shell on their Back : So that, whenever these Eggs are designed to be found, and brought away from the Field, to be set under a fine Turkey or Dunghil Hen, Shepherds are the properest Persons to be employed in quest of them, as they attend their Flocks in open, champagne Fields, in the Months of *April* and *May* ; and, when they have found them, to put them immediately up among Bran in Boxes, and send them away to the Part desired. And, though some Eggs may be sat on, and thereby rendered un- useful ; yet, if a Person can get so many sound ones, as to have a Cock and Hen Bustard hatched and bred up, they will more than reward him for a great Expence, as giving him hereby an Opportunity of increasing the Breed, to his very great Profit. But there is another Way to come by these Bustards ; and that is thus : In the Month of *May* there are young Bustards, which are easily run down in Rye or Barley ; for, about the Fore-part of this Month, these green Crops are seldom so high, as to hinder a Person's pursuing and taking them : And the sooner they are caught, the tamer they'll be, and with less Trouble be reduced to a Familiarity, as my Correspondent justly observes : Therefore I would here give Notice to Gentlemen, that may think fit to employ me to get Eggs of Bustards, or young Bustards, that they send me early Orders, to enable me to employ Persons, in different Parts, time enough for getting them in *April* and *May*. But, for an Example of Industry, I shall here insert the Copy of a most ingenious worthy Baronet's Letters to me ; who is such a Lover of rural Improvements, that he delights to be at his Country Seat, even in cold Seasons of the Year in Refusal of living, for the most part, in his magnificent new House at *London*.

Sir

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Sir John ——— Baronet. The Copy of his
Letter to this Author.

S I R, *April 2d, 1744.*

I HAVE this Day finished your Month of *April*, as also all your other Works formerly; for which the World is greatly obliged to you. This is the first time I have ever heard of the Kerroon Cherry; and, as I love all Sorts of Improvements as much as any body can, I shall beg you to send me some, if you have any to spare: Twenty Trees will plant the Ground I can spare for them at present. I own, it is too late to plant; but I am so well supplied with Water, that I hope, if I have them soon, that they will succeed. I shall also desire one thousand of your Beech-sets, and a few Cuttings of your white Elder. I would not have the Cherry-trees old. If you can send me a few Trees of young Parsnep-apples and Orange-pears, I shall take it as a great Favour; who am, &c.

Sir John ——— Baronet. His second Letter concerning Improvements in Husbandry.

S I R, *April 13th, 1744.*

I Received the Favour of yours this Morning, and am much obliged to you for the Trees. I shall plant them as you direct me; which is a Method I have followed this Season in planting several Fruit Standard-trees, which I plant round my Fields, near my House, as other People do Forest-trees. The Soil here is on a marly Clay, but over it very good Virgin Earth in most Parts. We have had a continual Rain these three Weeks, which will help my new Plantation, and save the Trouble of watering the Trees.

I shall

I shall be greatly obliged to you for your Receipt to keep off Slugs and Flies; and will pay you a Guinea willingly, as I am sure it will answer, as you affirm its Success.

I keep a Farm, of an hundred Acres, in my own Hands, half Arable, and half Meadow; and, according to my Success in Farming, shall increase, or decrease, my Quantity; and shall be greatly obliged to you for any Hints, that you shall give me, as to Ploughing.

As to the fifty wild Cherry-stocks, I shall be very glad of them; and shall prepare the Ground for them directly.

I lately read your Book for the Month of May; where, I find, you recommend a Pole-bull, because of the frequent Accidents that attend the others. I intirely agree with you, and intend to keep no other. I have hitherto kept a large Dairy of *Holdernefs* Cows, which are too large for me, though my Land is good: Besides, they eat an infinite Quantity of Hay in Winter, which don't answer, in my Opinion, except near *London*, where Grains may be had in Plenty for them. I now intend to try the *Welsh* or *Scotch* Pole-breed, which give Milk enough, and do not require such Keeping in Winter. I own, my *Holdernefs* Breed is more beautiful; but, I believe, the others will answer better. I am, Sir,

Your constant Reader, and humble Servant.

P. S. I have this Moment received the Trees; viz. sixteen Cherries, twelve hundred Beech-fets, one Apple, and the Cuttings of Elder, all safe: But there were two of the Cherries tied separate from the rest. I beg to know, whether they were different from the rest; they seem so by the Bud.

Sir

Sir *John* ——— Baronet. His third Letter to
this Author.

S I R,

April 27th, 1744.

I Received your last Letter, and have planted the
wild Cherry-stocks, according to your Direction;
and don't doubt but they will thrive apace, as they
are in very rich Soil.

I also thank you much for your Receipt against
Slugs and Flies: I have just tried it among a
young Crop of Broccoli, and hope it will answer.

We have had so much Rain here, that it will
greatly help my new Plantation, which is very
fortunate.

I am, at present, in great Distress for a good
Dairy-maid, my own having married, and left
me: It's a Servant not easily found in this Coun-
try. If you will excuse the Liberty I take, I
should be greatly obliged to you, if you could re-
commend me one well qualified, that can make
good Butter, and fat and breed up Turkeys and
Pheasants, and Things of that kind: Perhaps you
may hear of one near you: I have made all the
Inquiry I can here, and can't find one to depend on.

I have inquired, of late, to find Cows of the
Pole-breed; but can't find any; so must wait till
I hear of some; but I fear they are not Plenty: I
prefer them, as many Accidents happen, which
can't from Them.

A Neighbour of mine has a very large Nursery
of Arbutus-trees, five Feet high; and has given me
a Parcel, which I have planted at thirty Feet Di-
stance, round a Field joining my Garden; and has
a most beautiful Effect: I have also planted out
the Beech-sets you sent me, to make a Wood, for
Shelter for my Pheasants and wild Turkeys; of
which I have a great many.

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I paid your first Bill to Mr. *Astley*; and shall send him the Remainder by my Servant that goes to Town, in two Days.

I have had some Grass-seed from——in *America*, called *St. Timothy-seed*; which is an artificial Grass, that will grow six Feet high, and will mow four or five times in a Summer, in good Ground: I have sow'd it in my Garden, and hope to have a good Crop of Seed from it: If I have, as I hope, from its being come up very green, I will send you some, if you care for it: A Friend of mine try'd it last Year, with very great Success. I am, Sir,
Your, &c.

The Author's Remarks on Sir John's three Letters
—My several Answers to this Gentleman's Letters I forbear to insert here, because they would take up too much Room in this Month's Book. And, therefore, I shall conclude this Chapter, with only making some Remarks on them, which are on this Gentleman's diligent and bold Attempts to get a Year's Growth of the Cherry-trees, Beech-sets and Elder-cuttings, &c. the sooner; though he laid out his Money, and planted them, so late as in *April 1744*. This I cannot but admire; but the less, when I consider how much he is Master of the true Notion of planting Trees, and managing them afterwards: A Qualification that all Gentlemen Planters should be endued with; because, whoever, in my humble Opinion, understands and practises this aright, may enjoy a Tree in half the Time that usually attends the common, wrong, careless Way of planting and managing it afterwards. This may, perhaps, be of infinite Consequence to those who would improve their large Estates, not only for bringing in an early Profit, but for giving them an Opportunity to see a noble Plantation, before they are too old to lose the Pleasure and

and Taste of such a valuable and delightful Improvement: A Method I communicate to all who buy Trees of me! For I furnish Gentlemen with these Beech-sets, and improved and wild Cherry-trees, &c. out of my Nursery, and the Woods, as I did to this Person, to whom I sent in all, besides the improved Sort, sixty-one out of our Woods, at Nine-pence apiece, with full Roots, and clear Bodies, six or seven Feet in Length; and hope, by his artful Management of them, their Sap will run firm and thin enough in *June* or *July*, for readily receiving Buds of the Kerroon Cherry, that I send to any Purchaser of such wild Trees gratis, for that Purpose. The Enjoyment of the Kerroon Cherry-tree is certainly of such Importance, that no Gentleman in *England* ought to be without it, who has an agreeable Soil and Situation for its Growth: And yet few, very few, have any Notion of this delicate Tree, and its Fruit; which not only yields a noble Repast at Table, but far better in the Cellar, when rightly made into a rich, pleasant, wholesome Wine, equaling, if not excelling, some Sort of Foreign red Wines; for the very Nursery-men in *Middlesex* are, most or all of them, Strangers to the true black Kerroon Cherry-tree; as I proved to be the Case, in the Month of *April* 1744, upon Inquiry among them for some of these genuine Sort, that I wanted, to make up a certain Number for a Gentleman. Nor did this Sir *John* ———, as he freely acknowledges, ever hear of the Kerroon-cherry, before my Book gave him an Account of it; though his Seat is not a great many Miles from *London*. But the Fruit and the Liquor are not the only Encouragements for planting this Nonsuch-tree; the Wood of it is likewise of great Profit for its fast-growing into Heart, under good Management, as being at its best Estate in sixty Years time; and

then, perhaps, it may sell for one Shilling a Foot, as I did one, whose Body was two Feet Diameter, that was sown into Boards, or Planks, for making Tables, &c. in Imitation of the true Mahogany-wood. His Beech-sets will be also very serviceable to him, as I have observed, for producing a Wood to grow into Timber, bear Mast, and shelter his Deer, Pheasants, and wild Turkeys. And when I heard this Gentleman planted his Fruit-trees round his plowed Fields, on Grass-balks, it gave me the more Pleasure to find a Person after my own Taste; for in this Method I plant my own Kerroon and other Fruit-trees, in single Rows, which yields far more Pleasure and Profit than Forest-trees. My most valuable Receipt to keep off Slugs and Flies, &c. this Gentleman gave me a Guinea for, on my bare Word, as being able to warrant its Success: It is no Powder; for that will waste away with Rains; nor can Chaff, nor Malt-dust, retain their Efficacy, when thoroughly soaked by Wets; for Water will render them smooth, and give the Slug an Opportunity to crawl over them; but my cheap Ingredient, that dresses the Land at the same time, is not to be served so; for, if it rains a Week or two together, it still answers the Purpose of keeping off Slugs, Flies, Worms, &c. The Pole-breed of Cows I help Gentlemen to, from a Breed now kept by a Nobleman. Maid or Men Servants I also hire for Gentlemen, as living near the best Dairy-Country for Maids, and in the best County for Plowmen, &c. To conclude; this most worthy Gentleman, whom I never yet saw, was pleased to employ me, confide in my Honesty, and paid my Bill honourably.

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An ESSAY upon the Nature of the Adder, Viper, Slow-worm, Snake, Fox, Badger, Land Eff, &c. and particularly upon the Residence, the Bite, the Venom, and the Cure of the three first; set forth in many Matters of Facts never before published: To be continued throughout the twelve Monthly Books of Agriculture Improved. By WILLIAM ELLIS.

AN Essay on the Nature of these Animals I have been the more encouraged to attempt, as I live in a County that, perhaps, is furnished with greater Numbers of them than any other besides in *England*; for here our many inclosed dry Fields, Woods, Hedges, and Commons of Furze and Fern, give the most agreeable and natural Shelter and Encouragement for them to propagate their Species in abundance; and also because no Author whatsoever has hitherto published a sufficient Number of Facts, to shew where the Residence of these poisonous Creatures is made Choice of by them; how a Person may best avoid being bit by them; or, if bit, the different Ways of curing themselves: At least, several of those who have attempted writing on these Creatures, have done it so insipidly, and some, I believe, I may say, so erroneously, that a Reader is little or nothing the better for it (with Exception to that great Physician and Casuist, Dr. *Mead*, who, I understand, has exceeded all others in writing a Book on Poisons, which I never saw, and a few others); an Example of which I shall shew, by transcribing what Mr. *Worlidge* says of Snakes and Adders; viz.

The greatest Injury (says he) that Snakes and Adders do to us, is in biting Children, Cattle, &c.

They affect Milk above any thing; and, as old Authors say, abominate the Ash: There you may

may use the one by placing of it hot in any Place where they frequent, to attract them, where you may destroy them; and the other by laying ashen Sticks in Places where you would not have them come: But this of the Ash is not credited.

But the most proper Remedy against these Vermin, is to keep Peacocks, which prey upon them.

Their Sting or Bite is most easily cured, if you timely apply a hot Iron to it, holding it so near as you are able to abide it: And it is by some ingenious Persons affirmed, that it will attract the Venom totally from the Wound.

Travellers relate, that in the *Canaries* the Natives cure the Biting of a very venomous Creature (that lurks among the Grapes, and usually bites them by the Fingers) by opening the Place bitten with a sharp Knife, by a strait Ligature below the Wound; and holding the Finger bitten upright for some time, out of which the Venom ascends, it being of a fiery Nature, naturally tending upwards; and may therefore be attracted by Fire, its Like.

Remarks upon Mr. Worlidge's Account of Snakes and Adders.—By the Account Mr. *Worlidge* here gives of Snakes and Adders Bites, he seems to put the Bite of the former upon a Parity with that of the latter, which is wrong; for there is a vast Difference between both the Breed and Bite of the Snake and the Adder: The Land Snake breeds her Young by Eggs she lays for the most part in Dunghils, that are hatched by the Heat of it. The Adder also breeds her Young from Eggs; but they are bred in her; and brings them forth alive: Which occasions the Virtuoso to distinguish them, by saying the Snake is bred oviparous, and the Adder viviparous. The Bite of the Snake is not so venomous as to cause more than a Soreness of the Part bitten; and is easily
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healed, even without any Application, in good-natur'd Flesh. But the Bite of the Adder is certainly mortal, if not stopt and cured by timely Art. The Land Snake therefore is frequently caught and made familiar, without doing any thing to it for preventing the ill Effects of its Bite. But the Adder, before it is used thus, must be deprived of its lurking Poison under its Teeth, and not to trust to that old silly Notion, repeated by many Authors, who have transmitted it down even to be mentioned by Mr. *Worlidge*; that ashen Sticks will prevent an Adder's Approach to the Place they are laid on. Egregious Mistake! for our Adders lie and breed in the same Hedges where ashen Stems grow. But this Error, as far as I can find, was first published by *Adam Speed* 1629. and reprinted in 1697. wherein he says Adders will not come near ashen Leaves; that, if Deers Suet is strewed on the Ground, the Scent of it will make them fly from it; that large Radishes are the Bane of them; and that the Smoke of Centaury and Wallwort will drive them away. Indeed I must own what Mr. *Worlidge* writes, that a hot Iron will extract the Venom of an Adder-bite, to be true. But this is a distant Remedy; and probably, before it can be applied, the Poison may have penetrated too far into the Blood; and then where is the Safety of such a Remedy? Which leads me to publish a present Remedy, and one that may be depended on for the curing of any Adder-bite, that was tried in the following manner; and is so ready an one, that if a Person has no Remedy about him, this may effectually supply it. But before I do this, I shall give some Account of the Nature and Residence of the Adder or Viper.

The Nature and Residence of the Adder or Viper.

—The Words *Adder* or *Viper*, by many, are taken for synonymous Names, or Terms, for one and

and the same Animal. Others insist on it, that they are distinct Serpents, and that both alike bring forth their Young alive. The Viper is said to be a little shorter and flatter-bodied than the Adder, and has a more fiery Poison; for that it kills in three Days at farthest, if not prevented. It is an universal Venom, heating the Body as if it was set on fire; attended with Convulsions, Weakness, cold Sweats, Vomiting, and then Death. The Adder is a hotter Serpent than the Snake, but lesser and shorter, and of a darker Colour; little or no way inferior in its Poison to the Viper, but thicker, longer, and of a brighter Colour: His Skin is composed of circular Scales; by which, when extended, he crawls, rears himself up, climbs a Tree or Bush, and suddenly enlarges himself as if he leap'd; he is of a cold Nature, and therefore slow in his digestive Faculty: Some say he has no Stomach; but that, to supply it, when he swallows a Mouse, a Mole, a Frog, or young Bird, whole, in the Bite he mixes some of his Saliva or Poison with it, which corrodes and digests the Flesh. Adders are found to be more numerous in the Southern Parts of *England* than elsewhere, as in *Cornwall*, *Devon*, *Dorset*, *Somerset*, *Wills*, *Hants*, *Berks*, *Surry*, *Kent*, *Essex*, *Middlesex*, and *Hertfordshire*; occasion'd, I suppose, from the Dryness of their Soils, the great Shelter of their Woods, Hedges, Fern and Furze Commons, and the warm Temperament of their Air, &c. / But I could never learn, that any Adder, or Viper, or Snake, was ever found in *Alesbury Vale*, and very few, if any, Land Snakes in *Hertfordshire*; if there be any, they lie in that Part next *Middlesex*. An experienced Adder-catcher asserts, that this Serpent sheds his Skin or Hackle every Year; the Male twice, the Female once; and have but one Cast or Litter of Young in that time. Their

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Their Testicles lie within-side in the hinder Part of their Body, about the Thickness of a common Packthread ; and, as I have observed, are about an Inch in Length : These are said to help their crawling. The Adder is found above Ground from *February* to *September* ; in which last Month they commonly earth themselves for the Winter in Holes of the Ground, in Banks, in Hedges, in Woods, in the Roots of old Trees, and in old Walls. A Labourer was stocking up the Root of an old Oak near my House, which when he had got about two Feet down into, he pulled out a rolled Adder, with his Mattock, that lay in a dry Place, where he observed were several Holes made in the Ground about it, an Inch wide each, supposed to be done by this Adder for the Conveniency of lodging its Young : In a Quarter of an Hour's time she began to crawl, but was soon dispatched by the Man. Near the Residence of the last lay another, which he likewise kill'd the same Day : And on the Morrow, at the same Place, he dug out a third, which he also killed, as he thought ; but on the following Evening, to his great Surprise, he found all three alive, two Male, and one Female, as he discovered by their Skins : The Males he knew were bred but the Summer before, because they were not so big as the Female. The same Man has found an Adder under an Hazel-root, and another under one of an Ash, without any manner of Provision for the Winter ; for these Creatures subsist all that time on their own Body and Spirits, by a Stupefaction, and somniferous Quality, inherent to their Nature ; as is evident also by the many that have been found in the Winter in the ruinous Walls of the old Castle at *Berkhamstead, St. Peters* in *Hertfordshire* ; where is a dry hilly Situation, that gives the Boys frequent Opportunities, in the frigid Seasons, to

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take and carry them about that Town in their twisted Posture for the View of the Curious. And here some of them are seen to arrive at a surprising Bulk, beyond the Field Adder: But whether this is owing to their Plenty and Variety of Food in a contiguous large Garden, Nursery, and grazing Ground, or to their safe and long Shelter among the Crannies of the old Walls, I cannot determine: However, this seems to confute the common Notion, that the Adder never survives his first Litter or Brood; because, as they say, the Young-ones eat their Way out of their Dam's Belly, after they have been received therein so often, till their Strength and Bigness enables them to perform it. They live on Mice and Moles, which they take in their Holes; also on young Birds, Frogs, young Hares and Rabbits, and therefore of ill Consequence in Warrens: They have been known to climb a slender Tree eight Feet high, and devoured young Magpies in their Nest. If an Adder is found in a Place To-day, he will not be far off the same To-morrow; for these have always their Residence near their Hole, nor is the Male at any great Distance from the Female at any time. On *Berkhamstead, Hudnal*, and many other Commons in *Hertfordshire*, Adders are often found by the Men that cut Furze for their Living, and mow Fern; for in these they enjoy a safe Shelter: And though the sharp prickly Ends of the Furze keep off Boys and Men from searching after them, they do not hurt their Bodies; for their Skin is proof against the Spines of this Vegetable. On this Account the Furze Common becomes one of the greatest Sort of Nurseries to the Breed of these Animals: And as our Part of the Country is accounted the woodiest and hilliest Part of *Hertfordshire*, Adders breed here in the greatest Plenty. Near the famous large woody

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Park of *Ashbridge* runs an Hedge from North to South, on the Ridge of an Hill of plowed and Grass Grounds, that by this Situation has the Sun to shine on it early in the Morning, and late in the Evening; which Hedge extends its Length near half a Mile, and is commonly so well furnished with Adders, that a Catcher of them declared it was worth thirty Shillings a Year to him; for that he always took care, on catching some, to leave enough behind to breed a Stock for him another Year.——Now, as these Accounts have taken up so much Room in my Book, I am forced to postpone writing my first-mentioned Proposal, how a Person may cure himself of an Adder's Bite upon the Spot of Ground where he receives the Damage. But this and others, please God, I intend to enlarge on in my next Monthly Book of *Agriculture Improved*, for the Month of June.

CHAP. XVII.

Of the Nature of the destructive Slug in May.

OF an Experiment made on the destructive Slug, or little naked Snail, by a Plowman.——It was on the 9th Day of May 1744. that my Plowman sowed fifty Bushels of Coal-foot over two Acres and an half of Barley, that was sown broad-cast, or in the Random-way; and, being a backward cold Spring, its infant green Blade did not begin to appear till about the 1st of this Month; and on the aforesaid 9th Day, as my Servant was sowing the Soot, he perceived great Numbers of Barley green Blades lie on the Ground, as if something had bitten them off near their Roots, where they are the sweetest and tenderest. This moved his Consideration what should have been the Occasion
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of it; querying, whether it was the Worm, the Slug, or the Beaks of Field-fowls: But it was not long before this his Curiosity was satisfied, by the Sight of many Slugs, or naked little Snails, that lay on the Surface of the Ground; which confirmed him in the Assurance, this Mischief was done by the Slugs: And as he was thus sowing the Soot, he had a mind to try an Experiment with the same on a Slug. To do which, he took one, and put it on some Soot; then he took more Soot, and covered the Slug all over: But all this did not overcome the Insect; for when he felt the sulphureous black Powder affect his Body, it so enraged him, that he seemed to employ his greatest Efforts to make his Escape; but, finding the Dryness and Roughness of the Soot prevented him, the Slug slipped his outward Skin, or what we call his Hackle in *Hertfordshire*, and crawled away, leaving this slimy loaded Coat with Soot behind him; which furnished him with a lighter and smoother Body, and enabled him to get away with the more Facility. The Ploughman, seeing this, had a mind to try a second Experiment, in the Manner he did the first; and accordingly buried the same Slug, as before, in Soot; which irritated the Creature to that degree, as obliged him to slip his outward Skin, or Coat, a second time, and make a crawling Escape from the Place. The Man, seeing this amazing Action performed by this small Animal, was resolved to try a third Experiment on the same Slug; and, for this Purpose, laid it a third time in Soot, as he did the first and second time: And here it was, that the last Trial ended with the Life of the Creature; for now his Strength failed him, and he presently expired in the little Parcel of Soot. From hence I would observe, that I suppose the greatest Virtuosoës never made the like Experiment as my Ploughman

Ploughman has done ; which, though done, as it were, accidentally, it may, perhaps, tempt some greater Wits to scrutinize into the Make and Nature of this Animal, which, to Farmers and Gardeners, is a most pestiferous Creature : To the former ; as it is one main Occasion, sometimes, of rotting Sheep ; for these Slugs, in warm wet Weather, in some Years, will lie on Commons, and in Fields, in great Numbers, in a small Space of Ground, where the Sheep being obliged to feed, lick up their slimy Bodies, and swallow, for aught I know, as it is very probable, abundance of them, that helps to increase the watry Quality in Sheep, and prove their Bane, according to the general Notion of both Vale and *Chelturne* Farmers. These are the Insects which devour Crops of Peas, Rapes, Turneps, and other Vegetables, while they are in their infant Field-growth ; and likewise damage Crops of Wheat, Barley, &c. To the latter ; they infest Gardens, and are destructive Arch-Enemies to most Things that grow therein ; and, in some Years, are so numerous, as hardly to be conquered ; as I shall farther shew, by what follows ; viz.

How a large inclosed Field of Peas was devoured and eat by Slugs.—— In the Parish of *Studham*, in *Hertfordshire*, a Yeoman, Owner of a very large Farm, that he occupied Himself, having sown one of his inclosed Fields, containing twelve or fourteen Acres, with Hog-peas, in the Random-way of sowing them ; a wetish warm Season succeeded, which gave the Slugs the greatest Encouragement to come out of their Cells, and feed on the luscious, young, tender, green Heads of the Peas ; and they so fed on them, notwithstanding his drawing his heavy, large, wooden Roll, of eight Feet long, over them, that they devoured so many of them, as obliged this Person to plow up the whole Field,

Field, and sow the same (if I mistake not) with white Oats.

How another Farmer lost Crops of Hog-peas, by the Slugs, in 1744. ——— This Piece of Destruction was committed by the Slugs in the Month of *April* and *May* 1744. In *April*, there was a Fortnight's or more Rain fell, which invited the Slugs in quest of their first and Spring Food; for these Creatures are of the somniferous Tribe, that sleep all the Winter; but whether they be Annuals, or longer-liv'd Animals, I can't determine; I am inclined to think they are of the first Period: This I know, that they are bred by Eggs laid in the Ground, rather below the Plough's Entrance, and this in a very numerous manner; which, in mild Winters, and wet Summers, increase at an infinite rate, in a very little time; for nothing stops their Breed, but very severe long Frosts, and very dry Weather: And, therefore, we have had but very little of their Company, since the hard Frost of 1739, till now; which contributed, in a great degree, to the Plenty of Grain, &c. that has since happened, But these last three dry Years being very mild ones, and few Showers of Rain falling, they seem now to have recovered their usual Numbers, that do the Farmers and Gardeners great Damage; as was the Case of this Farmer I am writing of; who, after he had sown his Hog-pea Seed in the random broad-cast Way of sowing them, and harrowed them in, the Peas grew up very well, with a promising Prospect of a plentiful Crop: But so it was, that as their green infant Heads grew up, the Slugs lay at them, and gnawed their little Leaves, till they were ragged; and, at last, the very Stalks were, in a great measure, devoured by them; so that several Pieces of Peas, in a common Field, not far off *Gaddefden*, were mostly ruined by these Slugs: And, as the Peas were sown in a common Field,

Field, among Parcels of other Peoples Land and Corn, this Farmer could not re-plow and sow the Ground again with white Oats, or other Corn, that would bear latter'd sowing.

How these two Farmers might have prevented their Pea-crops being so much damaged by the Slugs. —

Here were two Faults attended these Crops of Peas: One was, that the Farmers did not keep their Ground in sufficient Strength of Heart; if they had, the Richness of the Soil, very probably, would have forced the Peas into such a quick Growth, as to have caused them to grow faster than the Slug could have eaten them. The other was, the Farmer's rolling his Peas in the Day-time; which was wrongacting, because then the Slugs were, most of them, retired into their subterranean Cells, and lay safe out of the Squeezing of a Roll. Therefore he should have obliged his Servant to roll his Pea-crop about One or Two a-clock in a Morning, when the Slugs were most busy in feeding on it; then he might expect to have had all, or most of them, squeezed to Death, by his Eight-foot-long heavy wooden Horse-Roll, and have preserved his Peas. But there are two other Remedies, that would have infallibly prevented the Ruin of these Pea-crops: One is, by the new-invented double Horse-break: If the Peas had been sown in the Drill-mode, and this Machine employed afterwards in a right Time, then the Slugs could not have hurt the Peas to any great degree: The other is a Remedy I never yet publicly discovered, nor privately, except to two Gentlemen, as I have before hinted; which would have assuredly secured these Pea-crops, that were sown in the Random-mode, from the Slugs Rapine, and forced on their Growth with much Vigour: So that whoever are Masters of this Horse-break Instrument, and my Receipt for the other Application,

tion, need not fear what Hurt this horrid Insect can do to either Field, or Garden-crops, sown in any manner of Fashion.

C H A P. XVIII.

Of the Sparrows Mischief to Farmers.

OF the Breed of Sparrows in the Month of May. — Of all Birds that do the Farmer Mischief near Home, none is so hurtful as the Sparrow; and therefore his Destruction ought to be most diligently endeavoured: And, as Prevention is preferable to Remedy, their Breed, in this Month, may, in a great measure, be prevented; whereas, if they are let alone to perfect their Young, it may, perhaps, be out of a Farmer's Power to destroy all of them afterwards. Now this is the first and chiefest Month in the whole Year, for killing young Sparrows in their Nests; that is, as they build them in *April*, they hatch in *May*; and if they are not destroyed in their Eggs, they ought to be before the Young-ones can fly. The Sparrows differ from most other small Birds, in the Multiplication of their Species; for these build their Nests in the Thatch of Barns, under Tiles of Houses, in Holes of Walls, and hollow Trees, and among the Boughs of a thick-headed Tree. There was a Boy who found a Magpye's Nest in a Tree, that had Eggs in it; upon which the Magpye forsook it, and a Pair of House-sparrows took Possession of it, by making a Nest on the Magpye's Nest, and laying Eggs in the same. The Boy, some time after, climbing the same Tree, to take out young Magpyes, that he thought, by that time, had hatched, to his great Surprise found a Sparrow's Nest, and the Magpye's Eggs under it.

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And, on *Gaddesden-Green*, a very high Fir-tree grew, whose Body, after it was cut down in 1743. measured above seventy Feet in a strait Length: This Tree, being furnished with a thick close-branching Head, became a Refuge for many Sparrows to build their Nests in; because it was so high, that nobody dare climb it; and it was from this Nursery-tree, that I, and several Farmers, suffered considerable Damage, by the great Numbers of Sparrows bred here. In the Beginning of this Month, therefore, their Nests should be destroyed, and several times afterwards in the same Summer; but more than ordinary now, because their first Young will be ready to fly about the Middle of *May*; and, if the old ones are not hindered, they will breed till, and in, Harvest-time; so that, it is thought, one Pair of Sparrows will bring up three or four Broods in a Year, if they are unmolested, and, perhaps, have five or six Young-ones each time; for these hot Birds are so prone to increase, that if their Eggs are taken out, and their Nests are left behind, they will lay more Eggs in the same, as being a Bird not easily frightened, and made to forsake its old Habitation.

The Damage that Sparrows do to Farmers.——

The Sparrow is the most domestic Bird of all others; and therefore the most capable of plundering and ravaging the Farmers Barns, Granaries, and Home-fields of Corn, &c. which this small Creature is very capable of doing, by his very hard Corn-bill, and ravenous Nature, that prompts him to make many bold audacious Attacks, not only in Barns, Stacks, and Ricks of Grain, but also on the Wheat, Rye, Barley, Oats, and Peas, in Fields, when their Kernels, before and when they are got hard enough to become their substantial Food, especially that Part of the Corn that grows on the Outfides of Fields, next to

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Hedges;

Hedges; for here these voracious Creatures fly from the Grain to this close Shelter for their Safety and Refuge; but where the Sparrows are in a large Flock, these outside Ears and Pods will not satisfy their keen Appetites: I have known good Part of a Field of Barley damaged by them, while it was standing to ripen; for these Sort will keep on the Wing, while they peck the Barley-corns out of the Ears. Secondly, Wheat also, in its unripe Kernels, and afterwards, till it is reaped, the Sparrows take all Advantage of glutting their Stomachs with this nourishing Food; and afterwards, while it stands in Shocks in the Field: But most of all, when a Crop of Wheat, Rye, or Barley, by its great Bulk, falls down, and is laid flat, by heavy Rains; then the Sparrows make prodigious Havock, by enjoying an easy Opportunity of standing to peck out its soft Grains. Thirdly, It is the same with Field Pea-crops, that, by their couchant Posture of Growth, give Flocks of Sparrows a free Access to their Pods, which their strong Beaks penetrate with little Pains, to come at, and eat, the green and ripe Peas within them: And this Mischief they do with the greater Eagerness, as this delicious sweet Food is preferred by them to most others: So in Gardens, where the largest Sort of Peas are made to climb up Sticks erected for producing their greater Increase, and ripening them sooner than ordinary into the largest Pods; as these Crops generally grow near the House, these Home-Birds I have known to devour, I believe I may say with Assurance, above half a Crop in a little time, while the Peas were in their green Pods. Fourthly, Sparrows are likewise Arch-Enemies to Tree-fruits, Apples and Pears, while they, in their tender, green, infant Growth, are pecked at by them, as they prove a Novelty to them in this scarce Corn-season

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season of the Year: So Mulberries, the early *Kentish* red Cherries, the black Kerroon, Hearts, and all the improved Sorts, as they are a soft luscious Food, that, for the most part, grow in Gardens, Orchards, and Home-fields, the Sparrows lie at them all the time of their Ripeness, and furiously feed on them; so that, in a scarce Year of Cherries, when the Gardener and Farmer should make the most of those few they have, these Sparrows become their horrid Enemies, and deprive them of good Part of their Crops. Fifthly, Sparrows not only hurt us thus in our Barns, Fields, Orchards, Gardens, &c. but even in our Farm-yard, by settling among our Hens, and eating Part of the Meat we sometimes throw among them twice a Day; which gives a Flock of these bold familiar Birds an Opportunity to devour great Quantities of Grain in a Year, to a Farmer's great Loss, besides the infinite Numbers of Kernels that they peck out of Ears of Wheat, Rye, Barley, &c. thrown into the Yard, after they have been threshed, and escaped the battering Force of the Flail's Blows, to get them clean out. The Sparrows, and only the Sparrows, dare enter our Hogsties, Stables, Cow-houses, Rabbet-houses, and other Out-houses, and feed among our Swine, Horses, Cows, and Sheep, which, in the Winter-time especially, they seldom fail to do; and this they venture to do with the greater Assurance, if they are kept out of Barns and Granaries, from feeding on the Grain that lie in them; for these domestic Enemies are endued with so much Courage and Subtlety, as to enter into these Places through very small Holes and Crevices; and, when they have found out a free Passage into full Quantities of hoarded Corn, they then fail not of being frequent Porters of such easy-come-at Food, and carry away great Numbers of its Grains in a very

little Space of Time ; insomuch that, it is computed, every Dozen of Sparrows, killed before the Breeding-season, saves the Farmer a Quarter of Corn before the Year's End. Sixthly, Sparrows are said to be Enemies to Bees, according to Dr. *Warder*, who, in his Book of the Monarchy of Bees, p. 63. has these Words : “ There is yet
 “ another Enemy, which passes almost unsuspect-
 “ ed, which destroys abundance of Bees ; and
 “ that is the Sparrow, especially in their Breeding-
 “ time. The manner of seizing their Prey is
 “ thus : They come hopping on the Ground be-
 “ fore your Bees ; and if they find none pitched
 “ on the Ground, they jump up, and take them
 “ flying, and away to the Nest with it, and come
 “ and fetch another. Indeed, all the time of
 “ their having Young-ones, both young and old
 “ have their Living mainly upon Bees. The best
 “ Way to prevent, at least, a good Part of this
 “ Mischiefe, is to encourage Boys, in the Spring-
 “ time, to spoil their Nests ; and, now-and-then,
 “ for giving them a few Farthings, you may have
 “ all the Nests near you destroy'd.” But where
 they are not destroy'd, take the following Method
 to keep them off your Corn, while it is standing
 in the Field :

To keep off Sparrows from Crops of standing Corn, Fruit of Trees, &c.——To do this in the most lively Manner, catch one, or more Sparrows, with a Trap-cage, Lime-twigs, or with a Bat-fowling Net ; then take one, or more, and hang them up by the Leg alive, with a Packthread-string, to a Pole or Stick, in the Field or Garden ; and, by its screaming Noise, it will frighten the rest, and keep them from coming near the Place.

Remarks on a Letter, said by Mr. Bradley to be written to him, on account of the great Service that small Birds do to Fruit-trees, &c. by their devouring
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several Sorts of Insects. — At Page 216. in his Second Volume of Husbandry and Gardening, the Letter begins thus: "Sir, Reading lately Mr. Mortimer's Treatise of Husbandry, I took notice of his remarkable Prejudice against the winged Species, insomuch as to wish for a Law for extirpating several Tribes of them: I shall, in this, beg Leave to be an Advocate for these Innocents, who cannot speak for themselves; and endeavour to shew, that the Service they do us, abundantly balances the Inconveniencies; and that, instead of being Nuisances, they are Blessings; and that, without them, we should be like the Land of *Egypt* under the Curse, That the Grasshoppers would come, and Caterpillars innumerable, and would eat up all the Grass in our Land, and devour the Fruit of our Ground; and multiply so exceedingly, as to creep into Kings Palaces; and Flies would so abound, as to be extremely incommodious to us." — That he has observed a Couple of Sparrows, who had Young-ones, make twenty Turns each Hour; and, reckoning twelve to the Day, one Nest, in one Week's time, destroyed 3360 Caterpillars: That the Wren, Tomtit, and other numerous Breeders, destroy a much greater Number, who feed fourteen or fifteen Hours in a Day: That as he lodged at a Gardener's, five Miles off *London*, in the House, Barn, and Stable, there were seven Nests of Sparrows, two of Robin-red-breasts, two of Wrens, and one Redstart: In the Orchard and Hedges, one Chaffinch, one Hedge-sparrow, two Tomtits, two Chats, one Linnet, one Yellow-hammer, and one Tit-lark: That, according to the aforesaid Computation, there were destroyed by these twenty-one Nests, in one Week's time, 70,560 Caterpillars: And that the Singing and Sight of the different Bodies and Colours

Colours of small Birds heighten the Pleasures of a Country Life. — Now, most of this Gentleman's Observations, I agree, carry with them a great deal of Reason; nor have I any thing to object, but what he writes of the great Service that Sparrows do, without Exception: It seems to me, that he had not a Notion of the Damage that Sparrows do in and about Farm-houses, Barns, Stables, and Out-houses: If he had, I presume, he would have thought it necessary to take notice of the Mischiefs they do here. In a Garden, indeed, there is seldom so much Grain sown, and let stand to be ripe, that they can do much Damage; but the Service they do, in devouring Insects, as this Gentleman observes, may more than balance the Damage: But their Breeding in and about a Farm-house, Barn, Stable, and Out-house, is a different Case; for as they are, by his own Account, Birds that build more Nests about these Places than any other Bird, and have three or four Nests in one Summer, their Increase is beyond all other Birds; and, if they do a Farmer more Mischief than any of the winged Tribe, the Damage must be the greater: And so it is with the Sparrow; for when these build about a Farm-yard, they don't confine their Search after Insects; no, they have here Variety of more substantial Food, as Wheat, Barley, Oats, &c. These are their beloved Meats, that we generally find in their Crops, or Stomachs, after killing them: And although they may bring Insects to feed their Young with, in their tender unfledged Condition; yet, as soon as their Bodies become robust enough to digest Grain, they are not wanting to feed on the same; and which, to mine and all the Farmers Cost in our Parts, we find to be too true throughout, or almost throughout, the whole Year; and which we cannot well hinder, so long as they have

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Liberty to fly ; because there are few, and very few, Barns so close-boarded, but what the Sparrows can get into ; and so into many Granaries, Ricks, and Stacks of Grain, where these Arch-Thieves find Opportunity to pillage from the Farmer : But, where no Wheat, Barley, or Oats are to be had, the Sparrows are not capable of doing so much Harm ; if they were, the *Londoners* would not increase their Breed, by fixing earthen Bottles against the Sides of Walls, for them to breed in ; as I have seen done, to the Number of, I believe, twenty Bottles at one House : Nor would a Gardener, I suppose, suffer seven Nests of Sparrows in a Barn, Stable, and House, if he was to sustain as much Loss by them, as a Farmer does, both at home and abroad. Our Church, that stands about a Quarter of a Mile from any House, is seldom without one or more Nests of Sparrows in the Summer-time. Here, indeed, they live chiefly on Insects, because they have no Corn near them, till the Rye, Wheat, or Barley, gets into Ear ; and then, as soon as the Kernels become fit for their Turn, they will bear themselves on the Flutter of their Wings, while they peck their Meat out of the upright Ears : And I am apt to believe, that that Gardener, who quietly suffers Sparrows to breed in and about his House, when it is in his Power to destroy them, is ignorant of a great deal of the Mischief they do, even in a Garden ; for I can assure him, that the Sparrow scratches like a Dunghil-hen, to come at his Food, beyond all other small Birds ; and is worse, in this respect, than the Rook, that is said to employ only his Beak to come at his Meat : Nor do I know of any other small Bird that scratches for his Victuals, besides the Sparrow : He must, therefore, consequently, devour great Numbers of Seeds, presently after they are sown, and raked or harrowed into

into the Ground: But some keep the Sparrow tame in a Cage, for the sake of his learning to talk, and sing the Note of another Bird, hung by him from the time of his being taken out of the Nest.

How to destroy both old and young Sparrows.—

Dr. *Warder* is very right in saying Sparrows Nests are best destroyed by Boys, because it is a pleasant Sport for them to climb and take them out of their Holes; and the more so, if a few Farthings are given them as an Encouragement to do the same: But he is wanting to give another necessary Piece of Advice; and that is, That the Boys, on taking out a Sparrow's Nest, should always totally destroy the Nest; which they seldom or never do, but throw it down, and leave it on the Ground where it fell; and then the Sparrows are saved a great deal of Time and Labour in getting Materials for building a new Nest; for the old one being near, they immediately fall to work, and remount it Piece by Piece, till they have replaced it in its former, or some surer Situation. I know an old Woman in my Neighbourhood, who, because she rents a Tenement next a Farm-yard, and can hardly lay any Bread near the Back-door of her House, but the Sparrows are ready to come in and eat of it, takes particular Care to gather up all the Sparrows Nests that the Boys pull out, and burn them, to hinder the Sparrows using them again; and she declared to me, she has gather'd Lapfuls of such Nests in her time, and burnt them all. This is one Way of destroying Sparrows: But as many of these subtle Creatures build in very high Trees and Houses, their Nests are inaccessible; and so in lower Places their Nests sometimes lie so far in, that they can't be come at with the Hand. In these Cases the Sparrow-net is wanted; of which there are several Sorts, that I shall omit writing

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of, except one; and that is the common Clap, or Bat Fowling-net, that we buy for Half-a-crown ready fixed on Poles, and completely made for Use. This Net a Man holds in his Hands very early in a Morning, or very late in the Evening, when the old Birds are in their Nests, in this Month, or any other; and if the Nest is too high to reach with the Net from the Ground, we get a Ladder, and hold it against the Eaves of Houses, Barns, Dove-houses, and such-like Places, as also against Stacks of Corn or Hay; and if they were thatched, it would be better; and, being set close against them, to knock and make a Noise to force them to fly out into the Net.—Thus I have destroyed great Numbers of Sparrows, both in Winter and Summer, by the Bat Fowling-net, which I always keep by me; and is mostly made use of by my least Son and Servant, to whom I give Two-pence a Dozen for all the Sparrows they bring me; and yet can't destroy them so much, but that I have a great deal of Damage done by them every Year, which indeed makes me write with some Inveteracy against the Sparrow; for whose Destruction I not only keep a Net, but also a Trap-cage, which when furnished with another Sparrow, by way of a Decoy, I lessen the Number of some of their Tribe; and so my Boy does by a Fall-trap, set on a Tree or Hedge, a Pail or Wall, that is made with four Bricks set up Edgewise in the Form of a Square, almost close together, with a square Tile on the Top, and two or three Bits of Sticks in the Inside of the hollow Square. Here, by laying a little Corn on the Outside of the Trap, and some within-side, the Sparrows are invited to settle on a Trigger-stick, and so are caught by the Fall of the Tile: But this is chiefly a Winter-Trap. To which may be added Lime-twigs, laid at or near the Places
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where Sparrows usually settle; and, by these, Boys sometimes catch them, to their great Diversion, and the Farmer's Benefit. The best Use that Sparrows can be put to, that I know of, is, to bake them in a Pye, with or without little Bits of Bacon among them: This Sort of Pye I have eaten of at a Gentleman's Table; and is deemed a restorative Food for weak Persons, dressed in this or some other Form. — As to Mr. Mortimer's wishing for a Law for extirpating several Tribes of small Birds, there was a Law made, I suppose in Queen Elizabeth's Time, for obliging all Churchwardens to pay (if I mistake not) Two-pence a Dozen to any Person who should bring to them so many Heads of Sparrows; which Law, as it remains in Force at this Day, as well as others, for encouraging the Destruction of the Pole-cat, Hedghog, Fox, &c. a Person may oblige the Parish Officers (if they refuse) to pay them this Money, so appointed by Act of Parliament, by a Warrant from a Justice of Peace. I shall conclude this Subject or History of the Sparrow, with the following Account.

How a Boy used to rob Houses by means of a tame Sparrow. — I have read of an arch Thief, that was very young in Years, but an old Practitioner in the horrid Wickedness of Thievery; for, it is recorded, he had stole at times to the Value of five hundred Pounds. His Name was *Rawdry Audry*, who, under sixteen Years of Age, after having been several times in *Newgate*, tried and convicted for several Crimes, and, after a little suffering for them, discharged, was at last condemned to die for a Robbery, and hang'd at *Tyburn*. Now one Sort of his Robberies was performed in this Manner: He used to get a young Sparrow, and learn it to fly from and to his Fist; and, when he had duly qualified the Bird for his Purpose, he look'd

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out at a proper Time of Day in some of the *London* Streets, for a Sash-window being set open in the Heat of Summer (as many then usually are, to let a cool Air into the Room): When he had met with one, where a Side-board was furnished with Plate, he would so order it, that the Sparrow flew into the Room; and then he immediately knocked at the Door, and, with a very humble Air, pray'd the Servant to let him come in, to get his Sparrow: The Maid or Man-servant, seeing a Boy with a fair Excuse, had no Suspicion of his foul Intent; and therefore let him freely into the Room; where he so cleverly acted the Legerdemain Artist, as seldom to leave the Place, without bringing off a Piece of Plate.

CHAP. XIX.

Of the Damage of Pigeons.

HOW a Farmer had a Four-acre Field of blue Peas intirely ruined by Dove-pigeons.—One Mr. Pope, a Farmer, living in the Parish of *Berkhamstead St. Peter's*, in *Hertfordshire*, had an inclosed Field of four or five Acres, that, in *April*, he sowed with blue Peas in the Random-way; and they grew well, till, in this Month, they were attacked by several Flocks of Dove-pigeons, that were kept by Gentlemen in the neighbouring Parts of this Country: And, as the Peas were about four or five Inches high, they fell to work; and, greedy of this green Prey, they eat the Heads of the Peas so clean off, that they were intirely spoiled for a Crop; insomuch that the Farmer thought it the best Husbandry to turn his Horses into the same Field, to eat up the Stalks which the Pigeons left:

So that this same Farmer was forced to buy the green and ripe Peas that he used for his Family the rest of the Year. This Loss happened in 1742. And when the Farmer (whom I knew) was asked by his Friends, if he had any Recompence made from the Owners of the Pigeons; he said, No; nor dared to kill them, lest he incurred the Penalty of the Act, and paid five Pounds for shooting each Pigeon. To save me the Labour of commenting upon this Farmer's Hardship, in thus suffering by Pigeons, I shall recite what Mr. *Worlidge* has ingeniously written on this Subject; who, though he only takes notice of their destroying Grain, and not the green Heads of Peas; yet has touched this Matter, in the main, so well, that, I am sure, his more learned Pen has done it better than I could.—Pigeons, he says, are a Fowl that bring great Advantage to their Owners; but prove a far greater Annoyance, and Devourer of Grain, to all the rest of the Neighbourhood: It is an unknown Quantity of Wheat, Barley, Peas, &c. that these devour; not to mention the prodigious Computation that some have made of the Damage committed by them on the Corn, Grain, &c. Yet it is most evident, that they destroy a great Part of the Seed and Crop: Notwithstanding, several stand for their Vindication, alleging, that they never scrape; and, therefore, take only the Grain that lies on the Surface of the Earth, that would otherwise be destroyed, and not grow. To which I answer, That that very Corn that lies on the Surface, may prove the best Corn, unless (in Winter-corn) where the extreme Frosts destroy it, or (in the Spring) the extreme Drought; it having been, of late, found to be a Piece of very good Husbandry, in some light and shallow Lands, first to plow it about *August*; and then to run the Fold over it, and well settle it; and, afterwards,

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to sow and harrow it ; which must needs make well for the Pigeons, and ill for the Husbandman, where they cannot be kept from it.

And it is to be observed, where the Flight of Pigeons fall, there they fill themselves, and away ; and return again where they first rose ; and so proceed over a whole Piece of Ground, if they like it : Although you cannot observe any Grain above the Ground, they know how to find it ; as I have seen the Experience of it, that a Piece of about two or three Acres being sown with Peas, the Pigeons lay so much upon it, that they devoured, at least, three Parts in four of it ; which, I am sure, could not be all above the Surface of the Ground : That their Smelling is their principal Director, I have also observed ; having sown a small Plat of Peas in my Garden near a Pigeon-house, and very well covered them, that not a Pea appeared above Ground. In a few Days, a Parcel of Pigeons were hard at work, in discovering this hidden Treasure ; and in a short time, of about two Quarts, I had not above two or three Peas left ; for what they could not find before, they found when the Buds appeared ; notwithstanding they were hoed in, and well covered : Their Smelling only directed them, as I supposed, because they followed the Ranges exactly.

The Injury they do at Harvest on the Peas, Vetches, &c. I hope none can excuse ; therefore we account these amongst the great Enemies the poor Husbandman meets withal ; and the greater, because he may not erect a Pigeon-house, whereby to have a Share of his own Spoils ; none but the Rich being permitted so great a Privilege ; and also, so severe a Law being made to protect these winged Thieves, that a Man cannot *suum defendo*, encounter with them.

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You have, therefore, no Remedy against them, but to affright them away by Noises, or such-like: Also, you may shoot at them, so that you kill them not; or you may (if you can) take them in a Net, cut off their Tails, and let them go; by which Means, you will impound them: For when they are in their Houses, they cannot bolt or fly out of the Tops of their Houses, but by the Strength of their Tails; which, when they are weakened, they remain Prisoners at home.

How to prevent the Damage of Pigeons.—Scare-crows, Noises, nor even Shooting, without Killing, are capable of keeping off Pigeons from devouring new-sown Grain, or the young, tender green Heads of Peas, when they are two, three, or four Inches high; for these are such bold, audacious, domestic Fowls, that none of these Inventions will prevent their Mischief; and the less, because, at this Time of the Year, a Pea-crop is generally in its infant, tempting Growth, with green Heads, when the Pigeons have hardly any other Field-meat besides, except the Seeds of Bent-grass; which occasioned the old Verse:

*The Pigeon never knows more Woe,
Than when he does a Benting go.*

And, as very few of their Owners give them any Meat at home at this time of the Year, they are the more voracious in devouring any they can get abroad in Fields and Gardens; which so exasperated Mr. Worlidge, by the Loss he sustained by them in his Garden, that he has published several Secrets to intoxicate, and take Pigeons, &c.

First Receipt for intoxicating Fowls.—Take a Peck, or lesser Quantity, of Wheat, Rye, Barley, Peas, or Tares; to which put two or three Handfuls of *Nux Vomica*, and boil them well in running Water,

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Water, until they are almost ready to burst; then take it off the Fire; and, when they are cold, strew them upon the Land, where you design to take the Fowl; and such as eat thereof will immediately be intoxicated, and lie as if dead; so that they may take them up at Pleasure, provided you stay not too long; for the Dizziness will not last long upon them; therefore be near at hand: And it were not amiss to kill them presently, and take out their Entrails, although there is no great Danger in it.

Second Receipt. — As the greater Sort of Land-Fowl are thus taken, so may you take small Birds; only with this Alteration, that, instead of Wheat, Peas, or the like Grain, you use Hemp-seed, Rape-seed, or Canary-seed; but, above all, Mustard-seed.

Third Receipt. — If you approve not of *Nux Vomica* (that is sold at the Druggists), you may boil the said Grains or Seeds in the Lees of Wine (the stronger the better), as you did in the running Water, and apply them to Use, as aforesaid, and it will work the same Effect; and so in Gin or Brandy, being esteemed more wholesome, having nothing of that poisonous Nature in it; but, in an Hour or two, the Fumes will be perfectly wrought off.

Fourth Receipt. — Instead of boiling the said Grains or Seeds in the Lees of Wine, you may steep them therein; but then you will require a longer time before they are sufficiently swoln, and fit for Use.

Fifth Receipt. — I knew an old Farmer, that lived by me, practised this Method to keep off Pigeons, Crows, Rooks, and such-like Fowls, from doing him Damage in his Fields. He took a Parcel of Pins, and crooked them; then fixed a white Pea to each Pin, in such a manner, that
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the Pigeon, Rook, or Crow, could not perceive the Point. When this was done, he tied each Pin's Head to a strong Thread, and fastened that in the Ground to a Stick; then, when he had taken some Rooks, he would pull them Limb from Limb, after killing them, and scatter the Pieces about the Field, which became such a Terror to the rest, that he suffered little Damage from Field Fowls.

Sixth Receipt. ——— Or, instead of *Nux Vomica*, or Lees of Wine, you may infuse the said Grains or Seeds in the Juice of Hemlock; mix therein the Seeds of Henbane and Poppy, or either of them. These must stand two or three Days infusing, before they are fit to strew on the Ground, for the Use as aforesaid. To these I might add other destructive Receipts; but enough of this at present; and, therefore, I shall hasten to enlarge further on the Damage of Pigeons.

How many Chelturne Farmers think it excellent Husbandry to mow or feed a Clover-crop two Years, and then give the same Land one Ploughing and Harrow in Wheat, that in this Form often suffers by Pigeons. ——— In our Chelturne Country of Hertfordshire, it is a common Practice with many of us, to let some of our inclosed Fields lie under Clover-crops two Years together, for our greater Conveniency; and, if we manure the second Year's Clover-crop with Coal-ashes, Soot, or Dung, we then give the same Ground, in the Month of September, only one Ploughing and Harrow for Wheat, without any further Application of any Manure. But the best way of dressing such new-sown Wheat (if the same Ground was not manured in the last Summer) is to fold it; for, by this, the Wheat is trod in by the Sheep, and thus preserved in the best manner from the devouring Pigeons: Yet, even here, they will come

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in for their Share. But as but Part of the Ground can be folded on, the rest is either dressed by Dung, laid on the Surface as soon as the Wheat is sown, or else footed in the Spring Season; and either way, for the most part, produces the biggest of Crops, except when Flocks of Pigeons have their full Access at Pleasure to feed on the new-sown Wheat, that by this Piece of Husbandry lies on the Surface, and so exposed to these Fowls, that, when they can feed here undisturbed, they generally eat so much of the Seed, as causes the Husbandman to enjoy a thin Crop at Harvest, and a little Profit the rest of the Year; which Article, among many others, shews the Excellency of the Drill-plough, that lays in the Wheat-feed in the exactest Manner of Depth and Breadth, and, at the same time, secures it from the nice Search and Find of the laborious Pigeon. This Pigeon-Mischief, I, and Thousands more, have Reason to complain of, from the great Flocks that Gentlemen keep: Yet these do not so much provoke us, as the many House-Pigeons, kept by inferior Persons; of which I shall take Notice as follows; viz.

How Wheat-feed only barrowed into the Ground on a Clover-lay, is sometimes very much damaged by House-Pigeons, kept by inferior Persons. — Although the Farmer's Damage is sometimes very great by the Flocks of breeding hungry Dove-Pigeons, kept by Landlords, or their Tenants, yet we do not so much regret our Loss by them, as we do by those House-Pigeons kept by inferior Persons. I knew a Hedger and Ditcher keep about forty Pair of these House-Pigeons, in a Part of his Cottage, which was surrounded with many brave, large, inclosed Fields of good Land, where they got their Living almost all the Year, especially in Seed-time and Harvest; for then they work'd in

these, their chief breeding Seasons, with the utmost Diligence, on the new-sown Seeds, and on the Ears of ripe Corn : But here we suffer in a great Degree, when Wheat, Barley, or Oat, by the Greatness of their Bulk, fall down, and are laid before Harvest ; for, by this means, the Grain lying in a flat Condition, they have an easy Access to their Food, and devour great Quantities of it in a little Time : And the same, when Stocks of Wheat stand in distant Fields, where we are obliged sometimes, through the Wetness of the Weather, to let them stand here for three Weeks before we can house them ; and then the Pigeons plunder us with a Witness, by feeding on the Corns of Wheat as they stand in Sheaves. I likewise knew another, that was a Chair-maker, who rented a House and large Orchard for five Pounds a Year, keep forty Pair of House-Pigeons, that did the Country about him a great deal of Damage ; as I (for one) have just Reason to say. But this is only Part of a Farmer's Sufferings ; we have our Wood-stealers by Day and by Night, that pull Stakes, and other Wood, from out of our Hedges, for Firing, and other Uses, and thereby leave behind them such Gaps, as sometime let a Neighbour's Cattle into a Field, and then Pounding and Reparation-money generally ensues, to the Amount perhaps of several Pounds. At other times, in our inclosed Fields, that lie at some Distance from our Houses, there are some that take the Opportunity, in the Night-time, to feed their Horses, &c. in other Mens Grounds, while the Farmer and his Men are asleep ; and so in Harvest-time, while our Shocks of Wheat are standing in the Fields to dry and harden their Kernels, there are Night Pilferers, who take a little from every Sheaf, to prevent the Farmer's missing any, and thus carry off great Quantities,

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well knowing, that the last Day's hard Work lays Master and Men in a profound Sleep, and thereby secures these sort of Thieves from the Danger of being discovered and apprehended. These, our Fruits, and many other valuable Goods, we Farmers are expose to the Loss of ; and the more, as some of the poorer Sort, Men, Women, and Children, think themselves screened from the Penalty of the Law ; because, if we punish the Man or the Woman with a Gaol and Prosecution, the next Word is, The Parish must maintain our Family. And thus they are encouraged to go on committing their Rapine every Year, till they break some of the weaker Tenants ; as I have known done ; and which I cannot think of without a deep Concern, as being very sensible of the hard Labour, early and late Watchings, and the great and certain Expences that attend a Farmer's uncertain Profits in his Crops of Corn, his Grass, his Cattle, his Fruits, his Servants, and many more Incidents that he is constantly liable to get or lose by : And yet to have his Goods stolen oftentimes, even by those he employs, or helps to maintain by a Parish Rate, is not only hard to the Pocket, but extreme grievous to the Mind : Wherefore, as Landlords of Farms value prompt Payments of their Rents, and would have their Land improved, I humbly recommend to their Consideration these Tenant-Hardships, and particularly to the Consideration of those who sit at the Helm of the Nation's Affairs, that they would make some good and wholesome Laws in Favour of Tenants, to the utter Discouragement of Pilferers, either Men, Women, or Children : I mention Children, because I have often known these to be made an Handle of by their wicked Parents, who steal where they themselves dare not ; believing, that, if they are caught in a thieving

Act, their infant Age protects them against a Prosecution; and so are made to become a sort of Jackcalls, or Providers of Prey, to their Fathers and Mothers, and the rest of their Family. And thus, indeed, a Succession of Thieves are intailed and increased on the Country; and which, very probably, will hereafter be of the last ill Consequence to it, if not prevented in Time. Which leads me to observe further, that there is a fundamental Tendency to this Wickedness, and to Profaneness and Immorality in general, reigning in many Parishes, through the Neglect of Divine Worship being performed Morning and Afternoon therein; which, in my several Years Travels, I have observed, with a grievous Heart, to see Church Doors shut up on a *Sunday*, where there was no resident Minister, that occasioned only one Service to be done on the Sabbath Day. This I was told, in one Parish, prevented several of their Women going to Church, because in a Morning they staid at Home to dress Dinner; and, in the Afternoon, because the Minister officiated in another Parish: Farmers Children, and Servants, are also, by this means, tempted to seek out an Opportunity to play, and run into the Commission of those Evils, which, by Custom, may prove their Ruin, for want of Opportunities to spend their Time better at Church, both in the Morning and Afternoon, on Sabbath Days. This is a Matter of great Importance, and calls for a particular Regard; for, as Farmers are a very numerous People, and employ the most Servants of all others, if these are corrupted in their Manners, they will consequently become Spreaders of Vice, a Torment to their Masters, and too often Helpers to their Ruin.

CHAP. XX.

Of the Improvement of Estates.

HOW a Tenant, by his Ill-husbandry, did a great deal of Damage to a Lady's large Farm; and the Method she took to repair the same. — But, first, I shall insert the Copy of the Lady's Letter sent to me for this Purpose; which is as followeth:

SIR,

May 19th, 1744.

HAVING read your Books of Improvements, and I having a Country Seat, that I want to have improved, I should be glad to have your Advice. So, if your Convenience could allow you to come to *London* some time next Week, it would be a Favour done me. So you'll please to inquire for the Countess of — in — street, in *St. James's* —, *London*. Which is all,
From your Friend.

I waited on this Lady accordingly; when she told me how her Tenant had abused her Farm, and obliged her to take it into her Hands; and that, for repairing and improving it, she was fully resolved to act by my Directions. To this Purpose, I proposed to her, in the first Place, that it was perfectly necessary for her to have a Ploughman that could hold the Drill, or any other Plough, could sow any manner of Seeds, mow, reap, plash Hedges, suckle House-Lambs, and do most, or all other Business belonging to Farming. To which she answer'd, she believed what I said to be right; but that all this would not answer her Purpose, unless the Ploughman could write, and cast Accounts; forasmuch as he must be the

the chief Manager of the Farm, be accountable for the Receipts and Issues thereof, and, in her Absence, write Letters to her of his Proceedings. But, as it happened, Visitors came in; and I was forced to withdraw, before I had time to acquaint her Ladyship with farther Particulars on this Subject; which to supply, I wrote her the Copy of the following Letter.

Little Gaddesden, 27th of May 1744.

M A D A M,

Yesterday I heard of a Ploughman, that is well-skilled in holding our *Hertfordshire* Ploughs, in Sowing, Mowing, Reaping; and can perform that useful Branch of Husbandry, which your Ladyship so particularly insisted on, the Planting and Plashing of Hedges; can write, and understands Figures well; but is not acquainted with the Drill-plough, Horse-break, and some other Instruments, as being what he never saw: Nor can I expect to meet with one that is; because these two Machines are not yet known in that Part of the Country he lives in; nor, indeed, but in very few Parts besides: For a new Invention in Husbandry, though of ever so great Importance to a Farmer's Interest, is sure to make its Way with the utmost Slowness; for these Sort of Men, more than any other, are very jealous of new Improvements in Husbandry, lest they be led into Mistakes, to their Prejudice; knowing, that a Miscarriage may hurt a weak Pocket: Therefore it is almost a general Rule among Tenants, to forbear trying any new Project in the Farming Way, till its Benefits appear so glaring, that there is no Room left to doubt of its Usefulness: And therefore, in such a Case, they wait for a Proof, by the Trials of rich Persons; for, say they, if a new Invention should miscarry in

in their Hands, it will not hurt them, when it will us. But, to supply this Defect in this Ploughman, if you think fit to hire him when you see him, your Ladyship, and all Persons that employ me in these Affairs, have this Opportunity; *viz.* to have them qualified to hold the Drill-plough, Horse-break, and other new and most valuable Instruments, in three Days time; which is a Service that none ought to grudge paying a Trifle extraordinary for: Though on this account I charge nothing for the bare learning such a Ploughman to use these profitable Implements, nor for teaching him the Art of suckling House-Lambs, and other Matters that he may not know before, and yet be justly deemed a good Ploughman and Manager in the old Husbandry: And, when such a Ploughman is made a Master of this Knowledge, how serviceable must he be to a Person he is hired to serve; particularly to one in your Ladyship's Case, whose Seat lying remote from *London*, your People must consequently be the more ignorant, even of the best Management in the common Way of Farming! Therefore, to look into the Advantages *de futuro*, I have to remark, that, by your having such a Ploughman so qualified, your Estate may not only be vastly improved by his Skill, but his Example will teach others of your Servants to do the same Work; so that, if a Dislike in you, or him, should happen, and he is discharged from your Service, you will not be left at a Nonplus, but be able to carry on the Husbandry Business in as great Perfection as before. Hence I am led to observe, that a little extraordinary Wages given to such a well-qualified Ploughman is so far from being lost, that it is very likely to be the best Money that can be laid out in such an Undertaking as yours: For Encouragement, in this Case, sometimes does Wonders; it may prevent his hindering,

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as much as lies in him, to learn others his Art by his Example: On the contrary, in hopes of enjoying, a long time, the Place of such a generous Master or Mistress, he freely goes on, without Jealousy of being treated as a Tool to learn others, and then be turned off. It may engage him to the greater Diligence and Faithfulness: And, in short, by thus encouraging the chief and best Servant, he will be tempted not only to use his best Endeavours to promote your Interest, by his own Care and Labour; but, by acting the Supervisor, will see it done by all others under him. By all which, I don't in the least doubt, but that your large Farm, though much impaired at present, will be soon brought into a most fertile Condition; and the sooner, as you say it has Variety of Soils, is mostly inclosed, and lies near the Sea-side; which Conveniency, in many Places, furnishes Ore, or Sea-weed, Shells, Sand, or Mud; all or any of which is some of the best of Dressings for the Improvement of any Sort of Land whatsoever, that stands in need of Dressing. In short, as your Ladyship is well known to be Mistress of a superior Genius to many of your Sex, and is resolved to make use of these new Instruments in a Country where they are Strangers to them, you will certainly reap a very great Profit, by thus being the first, in your Parts, that will hereby enjoy Crops of Grain, and other Vegetables, every Year in the same Fields, free of the usual Loss of Time in fallowing Seasons; and with the least Charge of Dressing, and Mens Labour; as are the sincere Wishes of, M A D A M,

Your Ladyship's most obedient humble Servant,
Wm. Ellis.

To which her Ladyship sent me the following Answer:

S I R,

S I R, London, May the 31st, 1744.

I Had yours Yesterday, and am glad to find you have heard of a Man that seems to please you: And, as I am not in a Hurry, and would have him go down along with me, which won't be till the first Week of *August*; so you will have Time to inform him in Things that you find him wanting; and what Ploughs will be proper to be sent by Sea to ——— I shall be ready to take your Advice: And ever am, S I R,

Your assured Friend.

P. S. I shall go out of Town next Week to my House at ——— near ——— in *Middlesex*: So if you direct for me there, your Letters will come safe.

This Lady's Conduct, as well as that of a few Gentlemens in *Britain* and *Ireland*, and some beyond the Seas, may justly upbraid most of our *English* Gentry, Owners of Estates; who, though many of them keep plough'd Lands in their own Hands, yet will not endeavour to improve them by the new-invented Drill-plough, Horse-break, and other Instruments; notwithstanding it is beyond Contradiction, that their proper Soils may be vastly improved by them; and, at the same time, become a good Example, for the same Purpose, to their Tenants: Which leads me to be somewhat particular in my Account (by way of Example for others to imitate) of this Lady's managing her Estate, &c.

How a Widow Lady improved her Estate. ———

This middle-aged Widow Lady I have just Reason to write of, to publish her excellent Conduct in the Management and Improvement of her Estate; hoping her Example may become prevalent for
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others, even many of both Sexes, to imitate, for their great Benefit, as well as for that of the Nation in general. I never met with any Person more intent on the Improvement of an Estate, than this Lady was on her's; for when I first waited on her at *London*, to receive her Orders about it, she told me, by the Recommendation of Sir ——— Baronet, she had such a Confidence in my Sincerity and Ability to advise her, that she said she would leave to my Choice what Things I thought proper to buy, and send her, for improving that Part of her Estate which she kept in her own Hands. This full Commission induced me to do the best I could to serve her Ladyship's Interest: And, accordingly, in the first place, I helped her to one of the most complete Ploughmen in our Parts; who met her on the Road, in her Coach and six Horses, in *August* 1744. for waiting on her to her Seat in the North. After this, as soon as I could, I put a Three-wheel Drill-plough, and a Horse-break, six tame Pheasants, six *Hertfordshire* white Dunghil-fowls, and other Things, on board a Ship in the River *Thames*, for their being carried and conveyed to her Ladyship: And, when I can meet with some Turkey-pouts to my Mind, of the *Virginia* great Breed, that, at their full Growth, Guts and Feathers included, weigh forty Pounds each Turkey, I shall send them to her, with some other Curiosities, as Opportunity offers: For this Lady takes great Delight, and indeed makes it Part of her Business, to pry into, and inform her Judgment of, the latest and best Practice of Husbandry; and therefore very much encourages and receives Advice on this Account; buys Books, diligently studies, and readily disburses her Money, for obtaining that great End of getting much in little; or, in plainer Words, making the most of that Part of her Estate she holds in her own Hands; which

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which she has already vastly improved, by Plantations of Trees, Shrubs, and Hedges, &c. An Improvement that, in some Sort of Ground, exceeds all others; for where Corn, and other Vegetables, will not prosper, proper Kinds of Trees will: For which Reason, before any Persons attempt to make large Plantations of Trees, they ought, in the first place, well to consider what Trees will best suit their Soil; for, on a right Judgment of this, depends their future Prosperity: And this Lady has so wisely consulted this chief Article, that her great Numbers of young Trees are like to produce a vast Profit, against her only Son arrives at a Maturity of Age, when he may think fit, or may have Occasion, to fell them, and turn them into Money. This is acting the good Guardian Mother, in a most exalted Degree of Husbandry; for, by this means, her minor Son (incapable as he is) loseth no Time in the Improvement of his hereditary Estate, because she thus does it for him; and for which Posterity, after her and him, very probably will have Reason to bless her Memory. It is this, and her other noble Oeconomy, that enables her to live great, both at home and abroad: At her Seat, because it is a very convenient one, where she has a full Number of Servants and Horses, has a complete Dairy, makes her Cows suckle Calves, and her Ewes House-Lambs; which, by a close Inspection into their Management, causes this Part of her Good-houfewifry to return considerable Profit: And this, partly by reason she lives within three Miles of a large City, that gives her the best Opportunity to sell her Butter, her Calves, and her House-fatted Lambs, at a good Price; and much better, for her being the first Person, in her Part of the Country, that ever attempted suckling House-Lambs for a common Market: And for which Art, she is, in a great measure, beholden to

my Monthly Books of Directions, that she strictly observed; besides consulting me, in Person, at her House; where I had the Honour to eat at her Table with her. But, for a farther Assurance of performing this new suckling Husbandry, I provided her a Ploughman that understood it; having lived in a Farm where this Business was carried on all the Year for a *London* Market, as well as plashing Hedges, sowing, mowing, hoeing, and doing many other Works, in a far better Manner than most others; for this Servant, though a young Man, has been hired to, and served some of the most acute and opulent Farmers in our Country: And I must do her Ladyship this Justice, as to say, she is so well acquainted with the Value of such a chief Servant, that she did not grudge to give him even the Wages he asked. On this Account, Gentlemen, Ladies, and others, that think fit to employ me to help them to Ploughmen and Dairy-maid Servants, have the greatest Chance to be provided with those that best understand their Business; as I live in a County most famed for good Ploughmen; and on the Edge of *Alesbury* Vale, where some of the most complete Dairy-maids are in Service, and whose Characters I am most likely to know. This Lady also kills her own Beef, Mutton, and Veal; and keeps some of the best Sort of Dunghil Hens and Cocks: For the Care of furnishing herself with the most profitable Things of a Farm descended so low, as to injoin me to send her some of our best Sort of Dunghil Fowls: Ours, being all of a snow-white Colour, of a good Size, lay large thin-shell'd Eggs, that cause them to be hatch'd the sooner; breed commonly three times in a Summer; which is a particular beneficial Quality to us Farmers, when we have Offal-corn in Plenty, for feeding and bringing-up great Numbers of such fine white-legg'd Chickens, that sell for the best

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Prices at our Country Markets, and are careful good Nurfes of them. But more of thefe, when I write particularly on Dunghil Fowls, in fome of my future Works : And now, as the better of thefe Fowls are as cheaply kept as a worfer Sort, it is great Imprudence in all thofe who keep a worfer Sort in Neglect of a better. But before I quit this Subject of employing my Pen in the Praise of our *Hertfordshire* Breed of Dunghil Fowls, I think it not amifs to obferve, that it is not of the leaft Confequence for all Perfons, who keep a Family in the Country, to take care of getting one or more Cocks that are good Crowers, becaufe on this, in a great Degree, depends the early rifing of Servants : Many of thefe regard the Crowing of a Cock fo much, that they are the greateft Part of the Year governed by it on this Account ; and where a Clock is not to be heard, fuch Crowing fupplies it : And I think I may fay, I have a white Breed of Dunghil Cocks, that not only crow aloud, but mufical ; if I may make ufe of the old Woman's Term where I firft bought them. And this deferves the more Notice, fince fome Cocks Crows are fo harfh and grating to the Ears, as makes it unpleasant to be within the Hearing of them.

This Lady is likewise a moft curious Manager in the Brewing of her Malt Liquors : She takes care, in the firft place, to buy the beft of Malt, as well knowing, without this, there is no fuch thing as having right good Ale and Beer. But the Choice of Malt is a Secret that few underftand ; and, to prevent their being impofed on in this material Article, I muft refer my Reader to *The London and Country Brewer* ; a Book that no Family in the King's Dominions ought to be without, becaufe by this Art Malt Liquors may be made to exceed thofe commonly brewed, as Gold exceeds Silver,

Silver, and yet brewed for the same Charge the worser Sort costs. I am sensible there be many Gentlemen, and others, who would be glad to be informed of these two valuable Articles, because such brewed Ales and Beers are not only profitable, but very pleasant and healthful, as being the chief and most natural Liquor of all others to a *British* Constitution. Now those Persons that have not this Book, may be informed of all this from me, provided their Letters are franked, or Postage paid for them, to my House that lies thirty Miles from *London*; and I am paid for writing an Answer, for which very little is expected; for it is not reasonable I should do this for just nothing.

The next Thing that I am to praise this worthy Lady for, is, for her Skill and Diligence in making *English* Wines; of which Art she is a great Mistress. I heard her in particular say, that a Goosberry Wine rightly made, and kept to a due Age, is one of our best *British* Sorts that can be made; which, and some others, she is so much in Love with, that she prefers them to several foreign Sorts. But I observed, that her Ladyship was not acquainted with a Black and Honey Cherry Wine; although, in my humble Opinion, these two, and the red and white Elder, exceed all others. The Reason of this, I presume, was, because in the Country, where this Lady lives, they have few or no Standard Cherry-trees: But, if they knew the Value of them, I don't doubt I should not be long without several Commissions, to send many of them by Sea that are to have a long Carriage, and others nearer, by a Wheel carriage, for the sake of their delicious Fruit at Table, and making a Wine so nearly counterfeiting Claret, that I defy a nice Palate to distinguish between them, if made according to a particular Receipt I could give, in which some foreign Wine must be used. This

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Black Cherry Wine has the most cordial Property belonging to it of all our Tree Fruits ; for, if a large Glass of it is drank, it presently is felt at the Heart ; and undoubtedly, by the Accounts of Naturalists, it is as wholesome, as it is reviving and pleasant. In 1744. we had such Plenty of Black and Honey Cherries, that I sold my Kerrooms at Nine-pence Halspeny a dozen Pounds, and common Black for Five-pence ; at last the Price fell to Four-pence Halspeny a Dozen, and then Thousands of Dozens were left ungathered, and fell to the Ground, where Hogs, Dogs, and Fowls, met with a Repast : A Pity, indeed, that such noble Fruit should be no more esteemed ! I am apt to believe it is for want of knowing its true Nature in several Shapes of its Virtue. The Black Cherry imitates Claret, as much as the Wine of the Honey Cherry does Sack or Canary, both in Colour and Taste. If this be true (as certain it is), few, I should think, would be without these two Wines in their Cellar, that can afford to make them. Twenty dozen Pounds of these would make a Barrel, or six-and-thirty Gallons of noble rich Wine, with the Help of Sugar or Raisins, &c. the Expence of which may be the better borne, since these Cherries, when gathered in their full Ripeness, want not so much of these Ingredients as Currans, Damsons, and some other Sorts of *English* Fruits : Not that she allows these *British* Liquors to hinder her the Use of foreign Wines ; for she, by the studious and diligent Management of her domestic Affairs, improves her certain plentiful yearly Income so well, that she can afford to buy these better than many other Persons of Quality, and of which she is a good Judge ; for, after she has bought a right Sort, she well knows there must be a due Regard had afterwards to their Preservation in the Cellar or Vault,

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or else the best of Wines may lose their prime Virtue. I had the Favour to tast a palish-red Wine at her Ladyship's Country-house in *Middlesex*, that she told me was three Years old, made at the *Cape of Good Hope* in *Africa*, and so delicious, that I could not forbear saying, It was more fit to be drank as a Dram than as a Glass of Wine: Besides, as this Lady's Seat is situated near the Sea-side, she enjoys the best Opportunity of buying foreign Wines, and good, at the cheapest Rates. These, and many more Acts of Housewifry, are practised by this Lady, who commonly, once in two or three Years, leads Part of her Life in *London*, and near it, in so magnificent a manner, that, as she was pleased to observe to me over a Dish of Tea, several of the Town and other Ladies, whose Estates lie much more Southward than her's does, have express'd themselves in a sort of Wonder; saying, Sure, Madam, you must have an Estate of twenty thousand Pounds a Year, to make such a Figure as you do! To which her Ladyship's Answer usually is, That she has not an extraordinary great Estate, and yet may be called a plentiful one: But she augments it when she is at home in her Country, by practising the Husbandry-part so well; that she lives handsomely here, and yet lays by considerable Sums out of her Income, that she had no Occasion to expend; and therefore was the better able to live in the Order they see her when in *London*. This Answer to some of her Sex seemed a Mystery; Strangers to what may be called Country Housewifry! And, to be better informed of this Matter, they ask her and say, Pray, Madam, what is this Sort of Husbandry that you practise? She tells them, It is looking after my Land, and to see it well plowed and sowed in due time; have my Corn and Hay cut down and housed in

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right Order ; my Fruit put to the best Uses ; my Dairy carried on in right Order ; my Beef, Sheep, Calves, and Lambs, fatted with Care and Art ; my Cattle bought in, and sold out, by an understanding Person ; my Goods made the most of ; and my Servants (that I spare no Cost to get the best Sort of) employed with the least Loss of Time. This is only Part of this excellent Lady's Character, which ought to become a Mirror of Example for many others to follow and practise : Then there would not be so many Estates lessened and sold ; Tradesmen made to lose their Debts ; and Breaches happen in Matrimony, as so frequently now-a-days do. This reminds me of what I heard her Ladyship say, That as she was looking out of her Window one Morning in *London*, she saw a Couple of Fellows in the Street hankering about a particular House : This moved her Curiosity to ask her Footman what those Fellows wanted there. He answered, That these were many of the *English* Gentry's Visitors, that attended on their Levee, and coming out of Doors : That is to say, Madam, they are Bailiffs, that want to arrest a Person that is now in that House, for Debt, as soon as they can catch him out of it. And no wonder that this is the Case of many ; for Good-husbandry and Frugality are quite out of Fashion, and he that goes about to set up for the Practice of it, must mortify every thing about him ; for 'tis the Mode to live high, to spend more than we get, to neglect Trade, contemn Care and Concern, and go on without Forecast, or without Consideration ; and, in Consequence, 'tis the Mode to go on to Extremity, to break, become Bankrupts, and Beggars. I am afraid this is but too just an Observation, that scarce one Family in ten keeps strictly within the Compass of its Income : For, besides the present

expensive manner of Living, the Generality of Mankind have contracted such an unusual Indolence, that People, eagerly pursuing the Pleasures and Novelties of the times, leave their Estates and Business of all Kinds at Sixes and Sevens, or at best to the Management of a few heedless mercenary Servants, that mostly, either through Avarice or Negligence, betray or deceive them. But this Lady is not one of that Stamp: She delights in the Pen, employing it in keeping exact Accounts of her Receipts and Issues to come at a Balance; and therefore obliged me to hire a Ploughman that could write and figure well; which accordingly I did, and to whom, on his first Demand, she gave 15*l.* a Year Wages, tho' our common Ploughmen have but half the Money: So much Difference there is between a topping Ploughman, and an inferior one. But further; There is, says one, much to be said to prove the great Town a Forge of Vanity, a Nursery of Vice, a Snare to the Young, a Curse to the Old, and a perpetual Spring of new Temptations. Some (says he) find a mighty Satisfaction from the Play-house, as thinking it the best way of passing an idle Hour or two: But here is such a Confusion and Jargon among them, and such a Huddle of Men and Things jumbled together, that, unless you can abstract the Good from the Bad, and withal drain Observations and Diversions from them both, I cannot tell what kind of Pleasure or Satisfaction you can propose from thence. 'Tis the very same in all the rest of our pretended Diversions; *viz.* Horse-races, Cock-pits, Tennis-courts, Balls, Assemblées, and Musical Entertainments, &c. Though the Recreations in themselves may most of them be innocent and harmless enough, yet they are generally so vitiated and corrupted, and the Pleasure that they pretend to, is so interwoven with Danger, as well as Vexation

Vexation of Spirit, that I defy the greatest Master of the Town to make it appear, that there is not more Pain and Disappointment, than there is real Pleasure or Satisfaction, attending upon the best of them. But the Diversions of the Country are noble, manly, and generous; and do not cloy or satiate their Professors; but are still improving upon them, and are, every Day, growing more grateful and delightful: They are not spent as those of the Town are; but still, the more they are enjoy'd, the more they please and gratify the Enjoyers. Moreover, to consider the Expence of the Pleasures of *London*, and those of the Country, the latter are all free and open, and derived, as it were, from the general Grant of Nature; the former are mercenary, and not to be come at, without a certain unavoidable Charge and Danger: Besides, all the Pleasures of this Town may be run through in the narrow Compass of two or three short Days; and, when that's done, you do but run the same foolish Round, tread the same Stage over and over again: And what can be more ungrateful to an ingenious Man, than to suffer his Senses to be perpetually grated and imposed upon, by the dull Repetition of the same Thing?

I therefore hereby give Notice to all Gentlemen, Ladies, and others, that, on a proper Order, I will furnish them with Ploughmen, or other Men and Boy Servants, usually employed in Husbandry Affairs; as also Grooms, Dairy and other Maid-servants; and buy for them Saddle, Coach and Cart-horses, as I live near *Dunstable*, *Leighton*, and *Alesbury*, where the best of these Sorts of Horses are brought several times a Year to be sold; as also Bulls, Cows, Sheep; the large *Leicestershire*, or the small foreign Breed of Hogs; Setting-Dogs, Gun-Dogs and Pointers, broke by the best Hands in our sporting Country; Mastiffs

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and Shepherds Dogs; tame Rabbits of several Sorts, and *Guiney* Pigs; young Squirrels and Dormice, that are very plenty with us; tame Pheasants of the common or white Sort, from Half-a-crown apiece to seven Shillings and Six-pence, according to their Age; *Guiney* Hens, white Peacocks, *Muscovy* and others of the best *English* Sort of Ducks; the large *Virginia* Turkey, some of which have weighed forty Pounds, Feathers and Guts included; the true *Hertfordshire* Breed of white Dunghil Cocks and Hens, that lay large Eggs with thin Shells, and have commonly two or three Broods of Chickens in a Year; divers Sorts of Wheat-feed, proper for particular Soils and Climates; rath-ripe, sprat, and common Barley-feed; Oats of different Kinds; Tick and common Horsebeans; various Sorts of Rouncivals, and smaller Peas, for Field or Garden Uses; Turnep and artificial Grass-seeds, and, the most excellent of all natural and artificial Grass-seeds, that called the *Lady-finger* and *St. Timothy* Grass-seeds; Fruit and Timber young Trees, and their Sets or Seeds; Hedge-wood Sets or Seeds; and all manner of Implements of Husbandry: So that Persons may have the Three-wheel Drill-plough and Horse-break, Two or One-wheel common Plough, the Swing and Foot-plough without Wheels, the Marsh or Bog-plough, the best and lightest sort of Plough for cutting Water through; the profitable Chaff-cutting Engine; several Sorts of Instruments for improving Hop-grounds; with most or all Sorts of Utensils usually employed in Corn or Grass Dairy-Farms; Furze or Whin-seeds, from our Commons; Beech-mast or Seeds, or its Sets, at Eighteen-pence an Hundred; and Kerroon young Cherry-trees, of which particular Sort (being the best of black Cherries) I have a large Nursery, and sell them

them at one Shilling apiece ; and which no Person should be without, for its valuable Qualities, that has a convenient Place for their Growth.

C H A P. XXI.

The bad Husbandry of the Scotch Farmer display'd, in the Copy of the following Letter.

S I R, D — — —, 11th August 1744.

BEING Proprietor of some Lands, and regretting the Ill-conduct of my Countrymen, I purchased several Books of Husbandry ; that of the Society of *Edinburgh*, and yours, &c. Both of them might be compendised ; and it were to be wished, that (as yours costs us about thirty Shillings at this Distance) you had been more plain, and not reserved so many Secrets, as the Method of preserving Peas, &c. from the Slug, Fly, and other Insects. However, as you have written more plain than any other, I esteem you, and wish my Countrymen would follow your Directions : But, as I despair of that in haste, I wish you could fall on a Way of sending some of the good Farmers to us ; rather, the Servants you send to Gentlemen. No doubt, this will seem a very whimsical, ridiculous Proposal to you ; and, I am sensible, there are no small Difficulties lie in the Way : Yet, if Particulars were known, I am satisfied we should have great Numbers speedily ; and all of them might make rich speedily with Ease ; which is the Reason, that (as I have expended a deal of Money on Improvements) I will bestow a few Pence more for the Pleasure of corresponding with Mr. *Ellis* ; and hope he will excuse the Trouble of hearing the bad Management of others.

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Though we have rich Grounds here, capable of bearing any Grain, all is on a wrong Footing; the ordinary Farmers have the Fields all open, take four Crops off the upper driest Parts of their Grounds, of poor, small, grey Oats, not worth plowing for them, letting it lie only four Years Lee, without sowing any Grass-seeds: The Surface is scarce covered, till they give it a slight Folding, and then plow it four Years more. They only scratch the Surface five or six Inches deep; and are afraid of turning up fresh Mould, and will not plow a rich moist Ground, but call it a cold, four, barren Ground. They fallow none; but, through Laziness, lay their Dung on the Piece next the House; which they call Croft; and take a Crop of Barley first; then one or two Crops of Oats; then dung again with Barley, Oats, &c. and so has been for Hundreds of Years. They sow no Peas nor Wheat. Thus their Crofts are full of Weeds, and a dry Summer breaks Numbers of them. The Masters, observing this, turned all their Grounds into large Inclosures of some Miles for feeding Cattle: A most precarious Trade! But, as it is better than the former, it is followed to such a Pitch, that we have not Food amongst ourselves: Our Wheat is brought to us weekly thirty Miles from the East; and is carried also four-and-twenty or thirty Miles still farther to the West, to *Kilcoudbright*, &c. Our very Oatmeal comes weekly to our Market from the *English* Borders at twenty Miles Distance: And, though we have large Quantities of Milk, yet our Markets are supplied weekly with Butter from the *English* Side; and send many hundred Pounds for sa't Butter and Cheese to your Sea Coasts. In short, to our Scandal, we had all starved the last Dearth, but that we subscribed, and sent over, above three thousand Pounds to the *English* Side, for Support of our Farmers, and the
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Poor at this one Town. A great Number of the *English* Farmers, observing this, are come in on our Borders, and are making rich fast. A poor industrious Fellow, of, I believe, not sixty or seventy Pounds Stock, was laughed at, for taking a Piece of Ground called too dear; but he improved it so, that, in a few Years, he sub-set less than the Half of it; and now his Family sit Rent-free on the rest. One from *Bristol*, some Years ago, came over to *Galloway*, and made a great deal of Money; and many others. In short, they will meet with great Encouragement from the Gentlemen here; and, particularly, it would be a Pleasure to me, who have nine hundred *English* Statute-acres lying together, all Meadow and Arable: It is open to the South and West, and covered from the North by Hills; the upper Parts of it are all a good Mould, mixed with a Clay four or five Feet deep; no Stones, save small loose Tumblers, which are all picked off to make Fences: The Meadow is a Foot of fine Mould, above a fine rich Clay and Moss, without Sand, from three to fifteen Feet deep; and yields from fifteen to twenty Horse-loads of fine Hay off a Day's Labour, without any coarse Spret: Is just so situate, as never to carry off the Hay by Floods; and, if all the Meadows were saved, nine hundred Horse-loads might be cut yearly, at sixteen Stone *per* Load of Meadow Hay, besides Clover. The Bogs are rising Grounds, betwixt the Meadow and higher Grounds; a fine Turf, one Foot; then Clay (without Sand); and Marl, two, three, or four Feet, and, in some Places, five or six; which could be easily carried off: And, if the upper Turf were laid down, it would be Meadow all behind. We have a Privilege of casting as many Peats as we please in a neighbour Moss, on the Marsh, without any Restriction, but paying a small Moss-due.

due. Vessels of thirty or forty Tons come within four Miles of it; and if one dine in *Cockermouth* or *Whitehaven*, they may sup in the Farm. Several Butchers carry home fat Sheep, &c. in Boats: Nay, these two or three Years past, a cunning Farmer from *Kent* has come stealing down here, and buys Wethers at Six and Six-pence, or seven Shillings; which, he says, he can sell, after a Year's Keeping, or less, at twenty Shillings, or a Guinea: Nay, we have Butchers all the Way from *Chichester* hither: So you see there is Money to be made here. The Farm is ten Miles from this, and fourteen from *Kilcoubright*, all good Coach-road. A good Farmer could sell all his Wheat and Peas to these two, cheaper than after fifty Miles Carriage; and Pork, which we have mostly all from the *English* Side. There are some light Parts in the Farm; but there is always Plenty of Marl, or rich Clay, within thirty or forty — of it, to lead to it; and has such a Command of Water, that the Half of it may be flooded all the Winter and Spring, and even in a dripping Summer. There are Plenty of Houses, and good Farm-ones; but as I know an *Englishman* would not like them, if any offer'd, I would build right ones. It is a pleasant Place, a good deal of Planting; and I am yearly planting more. Had I been bred in the Country, I would keep it all; but, having another Business, it lies out of my Way to manage it. I propose, therefore, to let it to three or four Farmers, each to be inclosed within himself; with Plenty of Water and Meadow, &c. If the Whole be taken together, I ask but four Shillings and Six-pence an Acre, in full of all Rent, Tythes, and public Dues; only some small Casualties, a few Hens and Chickens, or so. This for one Life; and I will yearly quarry, and build two or three hundred Poles of sufficient Stone-walls, five Feet

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Feet high ; the Farmer Leading the Stones, when quarried, and paying seven and a half *per Cent.* for the Quarrying and Bigging ; and if the Farmer give an Acknowledgement at Entry, he shall have Power to sub-set ; by which means he may live Rent-free himself in a few Years. If the Farm lay here, I could have thirty or forty Shillings or more each Acre, which is the usual Rent here ; but being ten Miles off, I ask but little less than the tenth Part of the Rent. The red-headed Thistle is growing on the Hills, which have not been plowed of a long time, and the common Thistle over it all : Common red and white Clover with Thatches grows plentifully in all the Grofts : The Out-fields are thick-set with what they call *Bennert* (small Comfrey) ; and in *June*, at a Distance, the Fields look as if all covered with spilt Milk ; which is from a Flower, for that reason called Milk-Grass (Lamb-Lettuce) ; for it has now lain six or seven Years Lee. If any young Man were willing to push, you could not do a better Service to him than let him know of this, I can assure him ; or rather three or four of them, of good Encouragement, if they are honest. Principles are no Objection to me. Here is a Meeting-house for Churchmen. You will be a better Judge what Stock it will require, than I. Every thing sells dearer here than in your Markets, especially Pork ; Peas, Beans and Potatoes, and even Butchers Meat, dearer than most Places of *England*. —I'll beg you'll excuse this long Scribble ; and if any thing occur, favour me with a Line. You may observe, either in Print or otherwise, that there are cheap Farms in *Galloway*, or so ; but I do not chuse to have my Name made use of in public, or any notice taken of my writing you. —We have Plenty of Coals and Fir-timber, with Lime from *Whitehaven*. I have sold a hundred and five Ash and Plane-trees to two Lords there, who are to cut

Y them

them this Winter ; and, if I were to build a House, could have Fir Deals in Return. The Farmer may enter at *Martinmas*, *Candlemas*, or *Whitsuntide*, the 15th of *May*. The Meadows and Bogs are the richest of the Grounds ; but, having never been plowed, would answer well for Wheat or Lint. The Quarrying and building Walls costs me sixteen or eighteen Pence *per Pole*. Thus you have every thing huddled in, as it occurred to,

S I R,

Your most obedient humble Servant ;

Direct for me here.

though unknown.

I will lett a larger or lesser Part off at a Side, for the same Rent ; for some dearer, as the Goodness is.

The Author's Remarks on the Scotch Letter.—

According to this ingenious Gentleman's Letter, it is plain, that a Person who understands the Farming Business, and is able to stock a Farm, and is willing to rent one in the South Part of *Scotland*, has here an extraordinary advantageous Opportunity to improve his Money ; an Opportunity, perhaps, that is not to be match'd in *England* : And now is the Time to make the best of it ; for the Knowledge and better Practice of Farming will certainly become more common than ever, in a few Years more : And when this Art is more known in *Scotland*, undoubtedly Farms will lett dearer than they do at present. Happy then is he, that soonest takes one of these rich-landed Farms, at so small a Rent as four Shillings and Six-pence an Acre ! Land that with us would, in some Places, lett for twenty Shillings an Acre, without the great Conveniency of Marl-pits, which afford the best of Dressing for light Land : And, what is extreme valuable in this Gentleman's Estate, most of his Ground is of a stiff Nature ; which would give a

clever

clever Husbandman a fine Opportunity to get large Wheat and Bean Crops, where there was never any before: And every knowing Farmer is sensible of the great Value of fresh Ground, which here he may enjoy, not only because Wheat was never sown here before, but likewise because he may, by a skilful deep Ploughing, make that Earth turn and be uppermost to the Sun, that never was yet; and consequently thus enjoy a sort of Virgin Mould, to his great Profit. We commonly say in *Hertfordshire*, It is a beneficial Opportunity, that a Man enjoys, when he takes a Farm, after a Landlord has occupy'd it, because it is supposed, that by his Ability of Pocket he had thoroughly dressed and manured the Land, and left it in good Heart; which often is the Case, and then the succeeding Tenant fares the better for it for several Years after. And I say also, that it sometimes happens to the Advantage of an ingenious Farmer that rents a Farm, next after an ignorant one has broke, and gone out of the same. Of this I could give Instances that at present subsist, within a few Miles of me; where two Farmers now live, who succeeded two ignorant ones, that plowed their Ground so shallow as not to go to the Bottom of the common Weed-roots. Therefore the Weeds oftentimes got the better of their Corn-crops, and help'd to break them, by having wretched poor Crops. Now when another Tenant came after one of these, that made Choice of a right sort of Plough, agreeable to the Nature of the Soil, and plowed the Ground, where it would admit of it, its due Depth, he then came by fresh Mould, that needed no Dressing for Years after; or, if he did dress it, the less would do: And thus he got as good Crops, as the former one did bad ones. The Case here seems the same: For, as this Gentleman observes, they plow it so shallow, that it seems a Scratching rather than a Ploughing, and

so harrow-in their Barley and Oats. But to such an Undertaking I know there is one of the most simple Objections made; an Objection that is merely childish; and that is,——Who would venture to go and live so far from home? Alas! what a sad Thing it would be to live among Strangers! says one to another.——Silly People! There are many of our *English*, that make as much a Rout about taking a Farm twenty Miles off their last Abode, nay, more, than some of greater Ability do of going an *East-India* Voyage. I happened once to be in a Room with a Gentlewoman Relation, who had just come home to *England*, after living, I think, seven Years at *Leghorn* in *Italy*; when another of her Kindred, being at the same time there, said—O Cousin, how could you venture so far?——To which ridiculous Question she wisely answered,——O Cousin, I thought it no more than a Journey to *York* by Land.——But the *Dutchman's* Opinion is still more pertinent to my Purpose: His Maxim is, That where he gets most Money, that Place is his Home—So that he is the same Man in his Mind, Abroad as at Home; in a Spicy Island at *East India*, as in *Holland*. But here is less Reason, nay, little or none, for an Objection against living so near *England* as this Farm is; for there is no Sea to cross to it; it is all Land-traveling; and if there be any Goods to be sent to, or wanted from *London*, a fair Wind of three Days blows a Ship from one Part to the other. To which I shall add the following Encouragement; That, if any Person will speedily go and take all or Part of this great Farm of nine hundred Acres of Land, he cannot do it at a better Time, because all Sorts of Grain seem now to be at the lowest Ebb of Price; Cattle the same, and every thing else relating to the Farming Business: So that half the Money, and less, would stock a Farm now, than would at another Time, when

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Corn, Cattle and other Things, sell much dearer : So that there is no room to doubt, but a skilful Man would get Money apace in such good Ground, under so easy a Rent. And, if he is a single Man, he stands a rare Chance of making his Fortune here by Matrimony ; for in a Part where none knows so well how to manage Husbandry Affairs, he will be not a little respected ; and, as he lives in Reputation on his own Stock, he need not fear Proffers enough of rich Help-mates for his Choice of a right one (if he mistakes not) to be his Partner in Farming. A pretty many Years ago, I am credibly informed, a Servant Man went out of the Parish of *Great Gaddeſden* but into *Lincolnſhire* ; where when the People perceived he could get great Crops of Turneps by his Art in the open Field, they ſeemed amazed, for they had never ſeen ſuch a Sight before. This and other ſkilful Practice made the Man be eſteemed to a very high Degree ; and, according to the Story, he afterwards became a topping Farmer himſelf, by marrying a Widow, with a ready Stock, well placed in a large Farm : And here, it is ſaid, he lived till he died.

And now, this is to give Notice to any Perſon that has a mind to try his Fortune this way, by employing his Money and Skill, in renting ſuch a convenient, cheap Farm, that lies but a little Way in *Scotland*, where as good Wheat may grow as any in *England*, That if he will apply to me in Perſon, or by Letter (paying Poſtage to my Houſe), he may be further informed of this valuable Opportunity, to become Tenant to a Gentleman that will aſſuredly give him extraordinary Encouragement,

C H A P. XXII.

Of Bees.

THE bad Success that attended Bees in 1743.—
 This Summer 1743. though it might be justly called a dry one, yet was attended with so few Honey-dews, that most Bees got not Honey enough to subsist them all the Winter, which obliged many to feed them with Sugar just wetted with Small Beer (for our ignorant Niggards will not be persuaded Honey is the cheapest Food for this Purpose), from *Allballowide* to the Middle of *April* 1744. and because this Spring Season lasted so long cold, that the Bees could not keep abroad to get Honey enough to live on; which Supplies of Food were given them at times when the Weather was open; for then they would descend from the upper Part of the Hive, and carry it up; for in frosty Weather they kept close, and would not stir to receive any thing that was given them; yet for all such right Feeding, as they falsely call it, I know an old Bee-master lost this Year three Hives out of seven; and so many others have shared the same Loss by Famishing, for want of enough Honey-dews last Year, &c. for on these our Country People lay great Stress, and therefore I should here say something particular of them: But as these seldom fall in Plenty till the next Month, I shall postpone giving an Account of their Nature till then; and proceed to say, that as *May* is the prime Month in the Year for swarming of Bees, the greatest Care ought to be taken to watch their Swarming, that they be not lost for want of Care: For

*A Swarm of Bees in May is worth a Load of Hay:
 But a Swarm in July is not worth a Fly.*

But

But our Country People enlarge the first Line, and say,

A Swarm of Bees in May

Is worth a Cow and her Calf, and a Load of Hay.

Which leads me to be more particular on

The Profit of Bees. — Bees may be bought and removed at several times of the Year, as I shall hereafter observe: But the safest Time of all is reckoned to be the Month of *October*; however, some will buy and remove them the first, second, or third Night after they are hived, before they are too busily engaged at work, at a Price accordingly. When they are purchased in *October*, the usual Prices are as follow; as *Dr. Warder*, in his *Monarchy of Bees*, at Page 108. has calculated them; and gives this Account:—Suppose, says he, you begin to raise your Apiary with ten good Stocks, which in some Parts of this Kingdom may be bought for ten Half-crowns, in others for Crowns; but in this Country they are ten Shillings a Hive: The first Year you will, by doubling your Casts, be able to have about twenty-five good Stocks, and the next Year about sixty, and the third Year about a hundred and fifty, barring Casualties, and if they prove good Years: So that when you have raised this Stock, you are rich enough, if you are not covetous: So that in three Years time you may from ten Hives (if good Weather comes) have Bees enough to take the fourth Year an hundred and sixty, more or less, according as the Goodness of the Weather is; which, set them all at five Shillings a Stock good and bad together, comes to forty Pounds Sterling. And, I presume, whoever shall arise to the Half of this Profit, will suppose themselves very well rewarded for the Care they have taken about them: But of this more hereafter, when I shall make use of some of the Words and Directions for the
Im.

Improvement of Bees, by the two latest Authors that have wrote on this Subject, viz. Dr. *Warder*, and the Reverend Mr. *Thornley*; who, having read, and accurately traced, the Works of all former Writers, and made many Years Observations of these excellent Creatures from their own Experience, have given the World the best Accounts of them that ever were published. The first dedicated his Treatise to Queen *Caroline*; the last printed his in 1744. And although the latter contradicts the former in several of his Pages, yet I must needs say, in my humble Opinion, they have both acted their Parts in the most pleasant, the most instructing, and in the most improving way of all others; the informing of Persons Judgments, chiefly by Facts; a Specimen of which take in the following useful Account, as wrote by Mr. *Thornley*:

The Reverend Mr. Thornley's Account of the Swarming and Hiving of Bees.——The principal Reason why they swarm is the want of Room: Therefore in Colonies, where they are not at all streightened, they seldom or ever swarm; except (says Mr. *Rusden*) through Distaste, Disturbance, or Mismanagement.

And in Hives they swarm not merely for want of Room, without other concurring Circumstances, such as a King in Readiness, Multitude of Subjects, Prospect of Plenty, together with Weather, which is inviting.

Every Swarm is composed of all the three Sorts; viz. a Queen, great Numbers of common Bees, both old and young, and Drones, whose Number are uncertain; some Swarms have more of these than others. Dr. *Butler* is of Opinion, that those Swarms which have most Drones will most surely prosper; but I doubt it, till I see it proved.

The Multitude of Swarms does not predict or promise the Prosperity of an Apiary; witness the

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last Summer 1743. in which I had no less than eighty-six or eighty-seven Swarms; a considerable Number of which at *Michaelmas* had not Honey half enough to maintain them till this Spring.

The old Stocks also sending forth such Multitudes (swarming most of them twice, and many of them three times), they were greatly reduced in Strength, and in Store. Many about the Country are already dead, both old and young; and, no doubt, many more will yet die.

Neither do the earliest Swarms always prove the best, or prosper most, as early as the latter End of *April*, or the Beginning of *May*: The Weather often afterwards is very wet and cold, shuts them in, and prevents so long their Labours, that I have frequently known even these either totally destroyed, or exceedingly reduced.

But Swarms at the latter End of *May*, or Beginning of *June*, shall prosper, and answer the Owners Expectation.

Three Years ago I had a Swarm upon *Midsummer* Day, which laid in a sufficient Store of Provision for their Support till the Spring following; and they swarmed that Summer either the last Day in *May*, or the first of *June*, and every Summer since.

And it is more than twenty Years since I had a Swarm the Beginning of *July*, which stood thro' the ensuing Winter, and prospered well.

When you observe your Hives well replenished with Bees, and begin to lie forth about the Hive's Mouth in the Day-time, and go in at Night, and also the Drones appear, you may expect Swarms, especially if the Weather is clear, calm and warm; for in a cloudy, wet, or stormy Season, the first Swarm seldom or ever rise; though the Casts, or second Swarms, often rise in indifferent Weather.

And whenever you see them gathering together in little Clusters upon the Hive, or Stool, you may infer they are preparing, and even ready, for a Dance; and may expect them to rise presently.

Get your Hives in Readiness, and of different Dimensions, that you may the better suit them to the Swarms. To over-hive them, will be a great Disadvantage; if under-hived, the Prejudice is the less, and it is easy to give them Enlargement.

An Hive holding three Pecks, or two Pecks and an half, will be a fit Size for an early Swarm of eight or ten thousand Bees: An Hive of less Measure will be large enough for those that come later in the Year, and in less Numbers.

It may, perhaps, be of some Service here to acquaint the Reader with an Experiment I made in *October* last; when, putting the Bees of a small and late Swarm into an empty Hive, and afterwards upon a Table, I took a particular Account of their Measure, Weight, and Number; in Measure a Quart, in Weight one Pound and a Quarter, in Number two thousand. I first imprisoned the Queen; and, having a Person at hand to assist me in the Operation, particularly in counting them over, which took up the greatest Part of the Time, we had gone thro' the whole Trial, and perfectly finished it, before the least Sign of Life could be seen in one single Bee; but in a few Minutes more some Signs of Life began to appear first in their moving Legs, and then in other Parts; upon which I put them into another Stock, where they are still in Being.

From hence it is easy to compute the Number of Bees in a Swarm, of four or five Pounds in Weight, *viz.* eight thousand or upwards; proportionable to which would be an Hive of such an Extent.

Your

Your Hives thus at Hand, you may dress them agreeably to your own Fancy. I rub mine only with a small Handful of Fennel, dipped in a little Ale sweetened with Sugar; sometimes with nothing at all, except it be a new Hive.

It is a common Practice with most to place Sticks in the Hives, the better, as they suppose, to fasten the Combs: But if your Hives are of a right Form, and narrower at the Mouth than the Middle, I see not any the least Occasion for such a Precaution; the Bees will themselves effectually secure the Combs from falling.

Besides, you will gain this Advantage by this means, that is, taking out the Combs full of Honey, in a manner, intire, and not broke in Pieces.

The two principal swarming Months are very well known to be *May* and *June*: As to the Hour of the Day, it is not certain; I have known them to rise near Eight in the Morning, and after Four in the Afternoon; but most generally between Eleven, and One and Two. It might not be amiss to have a watchful Eye upon them a good Part of the Day; and now be sure to give them Door-room enough, opening the whole Passage for them, though it be a Week or ten Days before the Swarm comes.

As soon as your Swarm is settled, hive them, to prevent any other joining with them: The Method of hiving them you will learn from their Place and Manner of Settlement. A Twig, or small Branch, you may gently cut off with a sharp Knife or Saw, or shake them into the Hive, setting it down upon a Cloth, ready spread upon the Ground, with a little Stick placed across to bear up one Side, to give them the Liverty of passing in and out.

If you shake them into an empty Hive, and many (as usual) return to the Place, repeat the Action as often as there is Occasion, knocking them out of the empty Hive upon the Cloth; you will with Pleasure see them croud to their Companions in the other Hive, like Sheep into a Fold.

But if they settle, as sometimes, upon the Body or large Arm of a Tree, &c. the best way is with a Brush, or a little Handful of small Branches, to sweep them into the Hive.

Being thus fixed in a new Habitation, in the Evening, when they are all within and quiet, carry them to the Place you have appointed for them, leaving them no Passage into or out of the Hive, but only at the Door, which may gradually be reduced to a narrower Compass.

When they are swarming and dancing a *Levalto* in the neighbouring Cloud, I never entertain them with any sort of Music, as do the Country-people, which drowns the delightful and more melodious Sound of the Bees: Nor is it of any Service, save to prevent Disputes, and to preserve Peace among Neighbours.

I have often known the Queen to fall upon the Ground, not being able to fly, through some Defect in her Wings; then the Swarm returns home again, and the next time they rise, they have another Sovereign. I have known the Swarm stay in the Hive near a Fortnight before they rose again; and, perhaps, waited for a Leader: Sometimes they rose no more.

The poor disabled, unhappy Princess, I have picked up in the Grass, but never without some Attendants, whom nothing but Violence could separate from her.

To conclude: If Ants are commended for their prudent Pains, providing their Meat in Summer, and gathering their Food in Harvest, though un-
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serviceable to Men; how much more worthy of Praise are these instructive, exemplary Insects, who herein set us (both as Men and Christians) a Pattern fit for our Imitation! Go then to the Ant (or rather to the Bee), thou Sluggard, and learn Wisdom.

I.

MY drowsy Pow'rs, why sleep you so?
 Awake, my sluggish Soul!
 Nothing has half thy Work to do;
 Yet nothing's half so dull.

II.

The little Ants for one poor Grain
 Labour, and tug, and strive:
 Yet we, who have an Heav'n t'obtain,
 How negligent we live!

III.

Good God! on what a slender Thread
 Hang everlasting Things!
 Th' eternal States of all the Dead,
 Upon Life's feeble Strings!

IV.

Infinite Joy, or endless Woe,
 Attends on ev'ry Breath;
 And yet how unconcern'd we go,
 Upon the Brink of Death!

*In Praise of BEES, being Part of that excellent
 Poem wrote by JOSHUA DINSDALE, A. M.*

AFTER their Origin, th' industrious Bees
 Dwelt in the clefted Rocks, or hollow Trees;
 And in the Grot's Recess, or leafy Shade,
 The Wonders of their fragrant Art display'd.
 With the sweet Odours of fair blooming Flow'rs,
 We call'd them from the Woods to ready Bow'rs,
 And made them love the Hive: For offer'd Gain
 Will cheat the careful Bee, and simple Swain.

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Thus

Thus Hives were first with golden Honey fraught,
 And their Republics sharpen'd human Thought;
 Inspir'd, with Love of public Good, Mankind,
 Till Fraud and Luxury debauch'd the Mind.
 But difficult's the Task, with curious Eye
 Into the Myst'ries of their State to pry;
 For, cautious, they avoid an open Light,
 And hide their Labours from the Robber's Sight.
 Should any Spy disturb their balmy Seat,
 They strive with Stings his Treach'ry to defeat;
 And boldly fly in the Invader's Face,
 To make him, inobservant, shun the Place.
 Yet still the sweet industrious Kind invite
 The raptur'd Muse to bring their Praise to Light
 (Tho' Honey all their wise Ambition raise),
 And consecrate them in her grateful Lays.
 The Sage, with Art, and searching Thought endu'd,
 Who subtle Nature's inmost Secrets view'd,
 By quick Invention a nice Hive compos'd,
 And in transparent Glass the Bee inclos'd;
 Which all the Wonders of the State display'd,
 And open both their Art and Manners laid.
 When Ev'ning paints the Heav'ns with rosy Stains,
 And Flow'rs smell sweet upon the dewy Plains,
 The Bee, returning, prudent wings its Way,
 Nor sleeps fortuitous, like Birds, a Prey;
 But in its Cell is lost in Sleep profound,
 Tho' the Rain beat, and the Storm murmur round.
 Not Man, with all his boasted Art and Care,
 Lives safer from th' Inclemency of Air,
 Tho' he a *Louvre* with vast Cost provide,
 A Monument of vain unbounded Pride.
 Ev'n, what too often wastes our wretched Race,
 They never feel pale Poverty's Disgrace;
 But in the blooming Seasons hoard their Store,
 In common live, nor proudly wish for more.
 Equality and Concord warm each Breast,
 By Love of public Good supremely blest.

C H A P. XXIII.

A further Account of Weeds.

HOW the pernicious Dunny Weed, or Colts-foot, &c. is kept down from damaging a Barley-crop. — It is true, that forward sowing of Barley is the safest and surest Way to obtain a full Crop of it, provided the Ground it is sown on is pretty clear of Weeds: But where a Field is over-run with this horrid Weed, that defies the Ploughman's Art to extirpate, Barley ought not to be sown for the following Reasons: First, The Dunny Weed generally shews its yellow Flower-head in *March*, which is the Month that most Farmers, both in *Vales* and *Chelturne* Countries, sow their Barley-feed in. Now where a Field is taken with this Weed, and the Barley is sown early in it, it will quickly overtake the Barley; and thus getting the Mastery of it, will either kill the Grain, or cripple its Growth to that Degree, as to render it perhaps hardly half a Crop at Harvest. I knew a gravelly Field of three Acres of Barley almost spoiled by this very Weed; for its Stalks, and broad Leaves, have such numerous deep stringy Roots, that they potently draw to them the Goodness of the Ground for their Nourishment, and so get the better of the more weak-rooted Barley. Secondly, To prevent this Loss in a great Degree, let a Farmer plow his Ground well with a Fin, or Iron Wing, fixed on the Side of the Share, the last time but one before the Barley-feed is sown; for, by this means, the Fin will cut in two most of the Stalks or Strings of the Dunny Weed, which will be prevented growing and increasing into more of these Weeds, by their time of lying, and afterwards being disturb'd again at the last plowing

ing and harrowing-in of the Barley, which on this Account should be in *April*. Thirdly, As this Weed is in its full Sap in *April*, and Beginning of *May*, the Plough and Harrows, by this their late Operation, will so cut and bruise the Stalks of the Dunny Weeds, as to make them (what we call) bleed, or lose their Sap; and thus they become much weakened, and their Growth checked in favour of the Barley-crop. With this Management, and with steeping the Barley-seed, the Weed may be kept under, which otherwise might keep under the Barley: Then if the Barley-seed was of a right Sort, and sown in a well-prepared Soil, there will consequently be a great Crop at Harvest: But when I say, a right Sort, I mean, that when Barley is to be thus sown late, in order to check the Growth of the Dunny Weed, it is absolutely necessary, that such Seed came last off a Sand, or sandy loamy Soil; for this Sort is what we call the Rathe-ripe, or Forward Sort; and by such its Quality, it will be forwarder ripe than the common Sort of Barley, that was sown earlier.— This fine profitable Barley-seed I furnish to Gentlemen in any Quantity to any Part of the King's Dominions.

How the whitest Barley may be got.—This rathe-ripe Barley sown late in *April*, or at the Beginning of *May*, requires the least Time to stand in the Field; and for this very Reason will prove the whitest of Barley, if the Seed was sown in a chalky, gravelly, or dry, loamy Soil; because Rains will have the less Time to fall on, and bash the Ears of Barley; for the more Rains that fall after the Corn is near ripe, the higher Colour the Barley will have: And though the Seed is sown latish, it will be ripe betimes; because, if the Seed is steeped, and the Weather is favourable, the Barley-corns will strike Root presently, as having at this time
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of the Year little or no Frosts to impede their Growth, nor long Nights to retard it; whereby such Barley will certainly acquire a whiter Colour, and a mellow Body, than that sown in *February*, or early in *March*; and, on this Account, will assuredly fetch the greater Price at Market; for this Quality in Barley is now much in Esteem for making the palest Malt; which all Farmers can't enjoy; only those that have a proper Soil, and give the Seed such a proper Management, have Reason to expect the Enjoyment of such a Benefit. The Year 1744. proved the Truth of this, in a high Degree; for, by the long Drought that presently succeeded the Sowing of dry common Barley-feed, the Crops, at Harvest, were under three several Ripenesses, when mowed; viz. green, half-green, and ripe: A Condition repugnant to the making of true Malt; for it is impossible, that Malt made with such Barley should be otherwise than in different Degrees of Goodness, for Reasons I intend hereafter to give, when I write of Malt, &c.

How a Farmer suffered a considerable Damage in his green Corn-crops, by a certain Weed, called, in Hertfordshire, Arpent.——— This is a most destructive Weed, especially to Corn-crops, because of its quick and great Increase; for this is one of that Sort that will grow by either Root or Branch; and is so prone to grow, and maintain its Growth, that, if it lies out of the Ground a Month together, in some Weather, it will, like the pernicious long-lived Dock, not die. And it is, on this account, that Housewives love to see it in their Houses, for the sake of its long continuing green, either in Water, or out of Water; being of a most succulent Nature, somewhat like Houseleek: Not is this its tenacious, retentive, sappy Quality, to

be wondered at, since a small Stalk, or Branch, not above six Inches in Length, nor bigger than a Wheat-straw, has sometimes been seen with six or more bulbous Roots to nourish it ; some of which are in the Shape of a small Shallot, others Radish-like, long, and much bearded at their Ends ; and these all in one Bunch of Roots, whereby it acquires a very potent Power to penetrate the Earth, and draw so much of its Quintessence to its Assistance, as qualifies it to rob a great deal of the Corn that grows near it, of that vegetative Property necessary to forward its thriving into a full Ear of large Kernels. This horrid Weed grows, for the most Part, in loamy Soils, both in the stiffer and shorter Sorts ; and gets such Possession of some inclosed *Chellturne* Grounds, where a careless Husbandman is the Occupier, that it is almost above his Match to destroy it ; as I shall make appear by the following Case : A very wealthy Farmer, and one who lives not a great Way from me, under the Reputation of a very acute Manager of his Farm, because he generally plows and dresses his Land more than many of his Neighbours ; and gets fine Crops of Grain accordingly ; yet this very Farmer, notwithstanding all his Charge, Vigilance, and Care, had an inclosed, loamy Field, containing two Acres and a half of plowed Ground, overrun with this Arpent-weed, that caused his Wheat, Barley, Peas and Bean-crops, sown in the Random-way, to grow thin, though he sowed the Seed thick ; and, consequently, had a poor Crop at Harvest : Which provoked him, for several Years past, immediately after the Ploughing and Harrowing of this Field, to gather up the Arpent-roots, and their Stalks, that the Plough and Harrow broke in pieces, and left on the Surface of the Ground. In *August* 1743. this same Field had

a Crop of Wheat reaped off it ; and, as this Farmer keeps his Land always rich in Dung, he resolved to sow the same with Barley in the following Spring-season. To this Purpose, he gave it several Ploughings and Harrowings, preparatory to bring the same Land into a fine, loose, porous Condition, for the better Reception and Covering of the Seed ; and, after such Ploughings and Harrowings, employed several Hands to gather up the broken Roots and Pieces of this Arpent-weed in Baskets : And this he did (as one of the Men told me, that was one of his Gatherers) to the Quantity of a Dung-cart full, between last Harvest and this Spring-season 1744. And this Work he continu'd, even some Time after the Barley had appear'd green ; for where-ever they see a Piece of Arpent appear green or sprouting, they pull'd it up.

Another Case of the same Farmer, shewing how the Arpent-weed damaged a Crop of Horse beans, while they lay stored in a Barn.——The Mischief of this Weed does not always end with the getting-in of the Crop of Grain it grew amongst ; for, as its Remains generally grow again, after Weeding-time, into high Stalks and Leaves, it unavoidably must be mowed with the Barley or Oats, or Peas or Beans : And this happened to be the Case of the before-mentioned Farmer, who having a great Crop of Horse-beans that he mowed, there was so much of this Arpent-weed amongst them, that grew in this same inclosed Two-Acres-and-an-half Field, about three Years ago, as obliged him to house it with the Beans ; for it was almost endless Work to pick it out from amongst them in the Field. Now it happened, that the Beans and their Stalks were got dry enough to carry into the Barn, before the Arpent was thoroughly wilked and dried ; and, in this Condition, for fear of rainy

Weather, he carried both Corn and Weeds in together : But so it was, that the succulent Leaves and Stalks of the Arpent kept alive, and reassumed a sort of Growth ; at least, they preserved themselves in a sappy Condition : And this increased the more by the Sweat of the Beans, that added a Moisture to their Moisture ; which the long-liv'd Arpent readily embraced, and retained so long, as to cause great Quantities of the Beans to mould and rot, as they lay in the Barn ; inso-much that, when the Corn came out to be threshed, a Sack of it was not worth so much, by three or four Shillings, as they would have otherwise been, had the Horse-beans been housed sound and free of this destructive Weed. If then an able and diligent Farmer as this is, suffers so much by a single Weed ; What must be the Case of a poor indolent one ? Why, as the masterly Growth of Weeds has occasioned many a Farmer to break, and come to Ruin, it, in course, must be such a one's Case : And this, because when the Weeds get Mastery of a Crop, they not only spoil the Ground for that Year, but it afterwards becomes impoverished by their repeated great Suction, and unable to support succeeding Crops of Grain. Besides which, they cause the Ploughing, Dressing, Seed, Rent, and Labour to be mostly lost : And thus are produced those fatal Consequences, that not only affect the present Tenant, but those that come after him for many Years ; and chiefly for this Reason, that the Seed of the Arpent, and other Weeds, are bred to an infinite Increase, and scattered over the Land : So that there is hardly any such thing as totally destroying them, and their Progeny, while Seed is sown, and Crops of Grain suffered to grow in the Broad-land Manner : Which Cases oblige me to resound the Praise of the Three-wheel

wheel Drill-plough and Horse-break ; because these Instruments may be made to clear Land of this pestiferous Arpent-weed, and all others, at the same time they are fining the Earth, and nourishing the Crop of Grain, in a far cheaper manner than any other Way possibly can.

C H A P. XXIV.

Of a Pointing-dog, &c.

THE Copy of a Letter from a Gentleman to this Author, for buying him a Setting and Pointing Dog, &c.

S I R,

July 10th, 1744. Devon.

I WAS favoured with yours last Week : In Answer to the same, I do assure you, I think myself obliged to you for remembering me ; and, I hope, this Year, as Cyder will be plenty, to send you a Cask. As for what you mention about the Secret for destroying the Fly on young Turneps, &c. that is too late to try now. These Vermin generally infest young Plants in the Spring ; But another Season I will (God willing) try the same, and comply, as you desired, with the Money, and every thing else.

As for the Peat-earth Ashes, we have great Plenty of them, and are our common Fuel near the Commons ; a large Propriety of which belongs to me ; so can get many Thousands of Loads when I please : We look upon those Ashes here, when burnt in our common Chimneys, to be good for little, as they retain but few Salts. Our common
Manure

Manure here, is Sea-sand and Lime, mixed with Earth and Dung: Some burn the Turf off the Grounds; some do not: The latter I take to be best; as, to be sure, the Strength of the Ground is in the Superficies; and when that is destroyed, as it must by burning, the Remainder is but poor: However, People have great Crops this Way; which I attribute to their liberal dressing the Grounds. I should be glad to try the Peat-ashes, if you would direct me how to burn them: Our Blacksmiths here burn them to a Coal, to work in their Forges. The Method they take, is, to burn them in Heaps, as you do Charcoal, and covered over. I have got some *Chinese* Pigs from a Gentleman near me, who brought them from Abroad: We run into that Breed much. I should be glad of a good Ploughman much; and one that can shoot, or knows how to kill Game; for I have large Royalties of my own; and I have now left off Hunting. Twelve Pounds a Year, with Washing and Lodging, are great Wages. I suppose most of your People can drive a Chaise, or Chariot, if it should be required.

If you could get me a Woman that understands Breeding of all Kinds of Fowls, as Pheasants, &c. As for our Dairies, we scald our Milk; which your People know nothing of; and make but little Cheese; for the Skim-milk turns to better Account, to feed Pigs, or to bring up Calves in the House with, when they come to be two Months old; we mix with some Water-gruel; Hay they have in little Racks, and some Oats: In the Spring we turn them out: Few People have larger Cattle: Some we turn away with their Dams. I suppose your People all know how to suckle Lambs, and every Branch of a Farm. Sobriety and Honesty are two of the chief Ingredients to complete a good
 Servant;

Servant; without which, I would by no means take any one: The more diligent, the better I can make his Place; which happens in my way, more than in your Country, as Perquisites will arise: A good-humour'd Man I love much, especially such can't avoid loving his Cattle. We plow here with Oxen chiefly, as it is cheapest; and afterwards sell them, as Young-ones come on, to the Grasiers, or feed them off ourselves. Our Soil is a light Hazel-earth, and produces good Corn and Pasture, but is a little rocky; so doubt whether your Drill-plough would do here; as some Rocks you see, and some you can't, being covered six Inches, or more. We have now extreme bad Weather for the late Hay; it has rained for above three Weeks time, and is now still falling. Whatever this Country affords, is at your Service; as is, SIR,
Yours to command.

Let me hear from you often, I beg.

P. S. Pray let me know how Estates lett in your Country; ours decrease in Value daily, though Wool yields a considerable Price; *viz.* Six-pence per Pound: Wheat is eight-and-twenty Shillings per Quarter, Barley twelve Shillings, Oats the same; Butter Four-pence Halfpeny per Pound, and eighteen Ounces to the Pound; which is cheap. Our Countrymen bring in Privateers daily; so what that may do, when a Peace comes, I don't know. A vast deal of Money is brought into this Country by our Sailors; which, we hope, will raise the Estates, when the Money comes to be applied, as these Folks are mostly Husbandmen. I wish you could get me a good Pointer; I will give a good Hogshead of Cyder, and a Piece of Gold: So pray try your Friends: Mine is dead lately. I have a vast Quantity of Birds.

The

The Copy of a third Letter, for this Author to buy a Gentleman a Pointing-dog.

S I R,

I AM obliged to you for the Favours you have bestowed upon me, in giving yourself so much Trouble about the Dog-pointer: I would have him to do his Duty well, in all respects; and to suffer a Net, upon Occasion. The chief Use to me, is for the Heath-game or Grouse, of which I have on my Moors a pretty many; and now is the Season: It is a noble Quarry; and the Cock is the most beautiful Bird we have in *England*. I shall leave it intirely to you, to see the Dog perform his Duty, in both Pointing and Setting; and the first in Company with other Dogs; and how he hunts his Grounds, fast or slow: The Age is well enough; for, you say, this is the second Season: You don't mention whether Dog or Bitch; but the latter I should chuse; but, if I can't be so lucky now, must wait another Year. If the Man uses me well now in this Dog, I may be a Chap, for several Years, to him, in supplying my Friends: And I promise, upon my Word and Honour, to give him something more than the Price, if he proves according to my Expectation. The Dog you speak of is that of two Years Hunting in Company; not the small one of five Guineas, which, you said, was a Gun-dog and Setter: This, you said, the Man asked seven Guineas for, and a Hogshhead of Cyder; but believe, he might abate a Guinea: You said, he was broke by a Gentleman's Game-keeper in your Neighbourhood. Now, I think, you had best have the Liquor yourself, and agree with the Fellow for a certain Sum, to be delivered in *London* to the ——— Waggoner, and

and take his Receipt, or Bond, for the same; I should rather have the latter, as the Penalty is double the Value. I will willingly give him six Guineas, and a Guinea more, if he proves as before-mentioned. If he, or any other, like the Proposals, I will immediately order the Money to be paid in Town, upon the Delivery of the Dog. I hope he is a handsome one; as our People here expect something curious from your Parts of the World. Your Cyder shall be surely sent to your Order in *London*, as soon as it is fit, free of all Charges, as a small Acknowledgement of your great Favours. Pray, how far may you be from *Basingstoke*? I would send there, on Purpose for the Dog, if that could be done; which is about four Days Journey from hence. I am, S I R,

August 25th, 1744.

Yours, &c.

Which Letter I answered; and since have received the Copy of the following one; *viz.*

A third Letter, concerning this Author's buying a Pointing-dog for a Gentleman.

S I R,

I AM favoured with Yours, dated the 12th of this Instant; and think myself under great Obligations to you, for the Trouble you have taken about the Dog; which I thought, by your former Letter, would suffer a Net; which is of singular Use, upon some Occasions, in order to preserve some Birds alive. I think you have offered a full Value in the six Guineas; more I am not willing to give, especially as the Case stands; the other Guinea I would not grudge, would he stand the

B b

Net.

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Net. I forgot to mention how he is inclined to Mutton ; for that is a very material Article : I wish the Man a better Chap, if he refuses this Offer. My Sister is soon to be in *London* ; and you may find her at Mr. ——— a ——— in ——— street in the *Strand*, where she lodges : She will give you a good Glas of Cyder, and make my Acknowledgement to you, for the Civility you have shewn me. Your Hoghead of Cyder will come with a Dealer's in Liquor of that sort ; and if you can help him off with some, shall be obliged to you. I beg you would save me some Beech-mast ; and shall be obliged to you for a Turkey-Poult or two : I expect some from abroad myself ; and, if I succeed, can set you up again. I will take no Servant-man, till you can supply me with a real good one ; his Place will be upwards of twenty Pounds a Year, with his Perquisites : As for a Woman Dairy-maid, and to look after Turkeys and Pheasants, I will wait till the Spring, and then expect one : The more of a Sportsman the Man is, the better ; he will have no one to controul him but myself ; and the more obliging and industrious he is, the more Advantages he will reap : But your Caution is sufficient. I think the Method your Gentlemen take, in having a Game-keeper, is illegal ; as not being a menial Servant, or qualified according to Law, as the Statute directs ; and, consequently, is liable to the Penalty the Law inflicts in such Cases : This, here, would be taken notice of ; but a Blot is no Blot till it hits. I will give you a particular Account about the Cyder, when you have tasted mine at my Sister's : And, whatever Grafts you want of our Fruits, will send you a whole Bundle. If the Fellow will take the six Guineas, or engage about the bearing the Net, at his Price ; *viz.* seven down ;

then

then the Thing is all over ; and I will order your Charges to be paid, as above hinted. Your Answer, as soon as possible, will oblige, S I R,

Aug. 17th, 1744.

Your most humble Servant.

An Account of the excellent Nature of Sprat-barley, &c. from Derbyshire and Nottinghamshire: In a Letter to this Author from a young Ploughman-servant, that he sent to a Gentleman in Cheshire.—

S I R,

I Received your Letter with great Satisfaction ; and am pleased to hear, you have sown the Sprat-barley, for the first Time, in your Farm : I do assure you, it is a most valuable Sort ; and so much in Esteem about *Derby*, and *Mansfield* in *Nottinghamshire*, that it is preferred to all others for making a Malt, that produces a charming Ale, if the Malt is made by a skilful Workman, and dried with Coak, because of its fine pleasant Taste and Goodness ; and is here sold for twenty Shillings a Load, which is six Bushels ; and is very likely to be much desired ; for, I hear, they have a great deal of Barley mowed, and have suffered much Damage by the late great Rains, which continued near a Fortnight together ; and the same here : But, as our Harvest is much later, we have suffered but little yet. Our Land is of a wet, springy, and loamy Nature ; and the oftener it is plowed, the more Weeds come up, even as much Weeds as Corn ; and, when these get a great Head on the Ground, as they will soon do, they cannot easily be destroyed ; for I never was so hard set to keep them under, and the Twitch-grass, which it is very subject to ; and doubt, notwithstanding all my greatest Endeavours, that I shall not be able

to destroy them in any reasonable time ; because, the more I plow, the more they multiply ; therefore it is very different from the *Hertfordshire* Land : And, as it proves to be more profitable for Pasture than Corn, great Quantities of it are laid down for Grass-land throughout *Cheshire*. I am now preparing the Ground in the best manner I can possible, for a Trial of the Three-wheel Drill-plough you have sent us ; but, by reason of the Continuance of the wet Season, I cannot yet complete it for that Purpose : However, in a Fortnight's time, I intend to begin sowing : therefore, against which, I desire that you will send me the exact Form of the two little Irons you mention, how they must be fixed, in order to complete the Drills ; for I cannot do it well by the Harrows : For, by this, you will do me and my Master a great Service : And, with it, I desire also that you will be so kind as to send me as exact a Form as you can of the Instrument you use for cutting of Chaff, so that I may get one made by it ; for my Master has a great Desire to have one of them here. We have little Convenience for sowing Peas and Beans, very few of which are sown here ; for the greatest Part of this Estate is kept for a continued Pasture, for maintaining ten Milch-cows all the Year ; and this is what we chiefly trust to, as most Farmers do, for paying their Rents, because they find most Profit by it, as this Ground exceeds most others for this Purpose, in making excellent Cheese and Butter. I have not an Opportunity, at present, of sending you a full Account of Potatoes, according to my Promise ; but intend to do it in my next, which, I hope, will be before the Season. Apples are so plentiful here, that they are sold for Four-pence a Bushel : My Master having a great Quantity of them, he intends

tends to use great Part of them for Cyder; and has a great Desire to try the Method you recommend, beyond most, or all others: Therefore I desire you will send me the best Receipt you have, not only for making, but also for preserving that excellent Liquor; for they cannot make a good Sort in this Country. The Parsnep Apple-tree, which I informed you was dead, is yet alive, and appears to be vigorous; to the Surprize of me and my Master.

September 1st, 1744.

The Copy of a Letter relating to that excellent natural Grass-seed, saved from the Pods of the *Lady-finger-grass*.

S I R,

HERewith I have sent you — Ounces of *Lady Finger-grass* Seed, as you desired: It is a Seed so scarce to be got, that it is difficult to gather two Quarts of it among five Acres of Meadow-grass. I left several Parcels of Grass standing at Mowing-time, for obtaining this Sort of Seed in right Order, by letting it stand to ripen. If there be proper Care taken of its sowing and preserving, you may increase it to what Quantity you please; for it is a very hardy Grass, and will grow almost upon any Soil; by which you will become Master of, perhaps, the finest natural Grass in the whole World: And, for keeping it in a flourishing State, if you will order your Servant to strew some Coal-ashes over it, to the Quantity of sixty Bushels, every three Years, on every Acre, this Grass will be prodigiously increased, and made to grow, in

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a wet Summer, Knee-high; for which the Month of *December* is the best Time. I hope to furnish you with a good Quantity of wild Thetch Grass-feed, next Year; and am, S I R,

Yours, &c.

Little Gaddesden, 20 Sept. 1744.



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